

UNIQUE BARRIERS IN ACCESSING HEALTHCARE  
FOR RURAL GAY, BISEXUAL, AND OTHER MEN  
WHO HAVE SEX WITH MEN

By

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Title of Study: UNIQUE BARRIERS IN ACCESSING HEALTHCARE FOR RURAL  
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Abstract: In 2015, the American College of Physicians called for research to understand the causes of health disparities between LGBT and their heterosexual counterparts. Little research focuses on these causes including specific barriers rural men who have sex with men (RMSM) face when attempting to access health care. A total of 209 cisgender MSM were recruited from multiple venues to complete an online questionnaire. Participants identified if they had received general medical care (GMC) or mental health care (MHC) over the past year. Andersen's (1967) behavioral health model was used to predict healthcare utilization, including an addition accounting for rural LGB experiences. A logistic regression was conducted to predict GMC and MHC, in the past year (12) and during their lifetime (L). All models were significant: for GMC-L ( $\chi^2(7) = 72.56$ ,  $p < .001$ ), GMC-12 ( $\chi^2(7) = 31.63$ ,  $p = .003$ ), for MHC-L, ( $\chi^2(6) = 41.57$ ,  $p < .001$ ), and for MHC-12 ( $\chi^2(6) = 53.26$ ,  $p < .001$ ). All models did not show a lack of fit. For the GMC-L, ethnicity, education, and HIV status were significant predictors. No significant predictors were present for the GMC-12 model. Both the MHC-12 and MHC-L models had previous mental health diagnosis and disclosure of sexual orientation status as significant predictors. Due to inconsistency among the models for GMC, no pattern of barriers predicting use were found. For MHC, individuals who more openly disclosed sexual orientation status were more likely to have used mental health services. This suggests mental health providers are uniquely situated to advocate for their clients in helping access medical healthcare. Implications and limitations to the study are discussed.

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION .....	1
Behavioral Health Model .....	2
II. REVIEW OF LITERATURE .....	8
Stigma about Sexual Orientation and HIV Serostatus .....	8
Disclosing Sexual Orientation Status and/or Behavior .....	10
Coping with Stigma .....	12
Current Study .....	13
III. METHODOLOGY .....	15
Participants .....	15
Procedures .....	15
Measures .....	16
Dependent Variable .....	16
Healthcare Utilization .....	16
Predisposed Characteristics .....	17
Demographic Information .....	17
Sexual Orientation and Behaviors .....	17
Sexual Orientation Identity Label .....	17
Sexual Attraction .....	17
Sexual Behavior .....	17
Gay, Bisexual, or other MSM Health Beliefs .....	18
Enabling Resources .....	18
Personal/Family .....	18
Rurality .....	18
Need for Services .....	19
Prior Conditions .....	19
Sexual Behavior History (Lifetime and Event Level) .....	19
Substance Use .....	20
Mental Health .....	21
GLB Rural Experiences .....	22
Level of Outness .....	22
Community Connectedness .....	23
Social Stigma/Rejection .....	23

Chapter	Page
Religious/Spirituality .....	24
Data Analysis .....	24
Bivariate Analysis .....	24
Multivariate Analysis .....	25
IV. FINDINGS .....	26
Participant Sociodemographics .....	26
Bivariate Associations for General Medical Care and Mental Health Care .....	28
Multivariate Predictors for General Medical Care .....	28
Multivariate Predictors for Mental Health Care .....	31
V. CONCLUSION .....	33
Medical Care Use .....	33
Mental Health Care Use .....	35
Overall Findings .....	36
Implications .....	37
Limitations .....	41
Conclusion .....	42
REFERENCES .....	44
APPENDICES .....	65
Appendix A – Extended Literature Review .....	65
Appendix B – Informed Consent .....	80
Appendix C – Study Measures .....	83
Appendix D – Debriefing Statement .....	108
Appendix E – IRB Approval .....	109

## LIST OF TABLES

Table	Page
1: Demographic Information and Utilization of General Medical and Mental Health Care .....	27
2: Univariate Analysis of Variables for General Medical Care .....	29
3: Univariate Analysis of Variables for Mental Health Care .....	30
4: Logistic Regression Predictors of Lifetime and Past Year General Medical Care Use .....	32
5: Logistic Regression Predictors of Lifetime and Past Year Mental Health Care Use .....	32

## LIST OF FIGURES

Figure	Page
1: Andersen's (1967) original Behavioral Health Model .....	5
2: Simpson and colleagues (2013) adapted BHM to account for GLB-related factors among GLB veterans .....	6
3: Proposed adapted BHM to account for rural-related factors among rural gay, bisexual, and other MSM.....	7



## CHAPTER I

### INTRODUCTION

The American College of Physicians has recently called for research to understand the potential causes of LGBT health disparities that exist when compared to their heterosexual counterparts (Daniel & Butkus, 2015). Policies, procedures, and discriminatory practices can create an atmosphere of heteronormativity, and thus a more inhospitable climate for nonheterosexual individuals seeking mental and physical health care (Butler, 2004; Cahill, 2002; Shankle, Maxwell, Katzman, & Landers, 2003). The stigma of society on nonheterosexual men, regardless of HIV serostatus, leads to poorer mental and physical health (Liu & Mustanski, 2012; Meyer, 2003; Meyer, Dietrich, & Schwartz, 2008; Mustanski & Liu, 2013). Unfortunately, less than one percent of existing research focuses on the disparities of LGBT individuals' mental and physical health (Boehmer, 2002). Most studies addressing minority stress and disparate outcomes among nonheterosexual individuals are conducted on urban samples; however, a few studies also look at the impact that stigma and minority stress can have on rural samples as well (Fisher, Irwin, & Coleman, 2013).

Information is needed to better understand the barriers that interfere with rural gay, bisexual, and other men who have sex with men (MSM) and their usage of mental

and physical health care systems. The current study assessed the barriers to health care for rural gay, bisexual, and other MSM using the Andersen's (1967) Behavioral Health Model (BHM).

### **Behavioral Health Model**

One way to understand who accesses health care and what barriers exist for others in accessing health care is through Andersen's Behavioral Health Model (BHM; Andersen, 1995, 2008; Andersen & Anderson, 1967). Proposed in the late 1960's (Andersen & Anderson, 1967), the Behavioral Health Model (BHM) was originally designed to help facilitate an understanding of why families used health care resources. The goal of the model was to help promote equitable access of health care to all families by understanding predispositions to using health care and what enables or impedes the use of health care services (Andersen, 1995). The model (See Figure 1) demonstrated that a family's *predisposed characteristics*, *enabling resources*, and *actual need* helped explain and predict health care usage (Andersen & Anderson, 1967).

Several recent studies have used Andersen's (1967) BHM to better understand utilization of health services by LGBT individuals (Andersen, 2008; Datti & Conyers, 2010; Simpson, Balsam, Cochran, Lehavot, & Gold, 2013). Using the BHM with sexual minority populations, providers can begin to understand what potential barriers exist that lead individuals to not access mental and physical health care services. This understanding can then aid providers in developing outreach programs and interventions to help underserved populations (Andersen, 1995). For instance, a study on vocational rehabilitation usage by Latino men living with HIV/AIDS, ethnicity (a predisposing

characteristic), knowledge of resources (enabling resource), receipt of public benefit (enabling resource), confidence to maintain a job (need), and general health perception (need) significantly predicted vocational rehabilitation service use (Datti & Conyers, 2010). Results indicated that program organizers of the vocational rehabilitation services needed to reexamine how knowledge of the resource and why mostly individuals who identified ethnicity as Puerto Rican were more likely to use the service than other Latino men with HIV/AIDS (Datti & Conyers, 2010). Another study analyzing Veterans Health Administration (VHA) usage by LGB veterans in Washington state also observed a significant predictive predisposing characteristic variable (female), a significant predictive enabling resource variable (positive service connection), and two significant need variables (greater clinical need, non-military GLB related interpersonal trauma) in individuals who utilized the VHA for health care (Simpson et al., 2013). Both studies demonstrate how Andersen's BHM can help identify inequalities in predisposing characteristics and enabling variables. Once identified, existing strategies to reach sexual minorities can be augmented or new strategies can be designed and implemented to help mitigate the inequalities and increase usage of mental and physical health care services by sexual minority populations (Andersen, 1995).

To evaluate VHA usage by sexual minority veterans, Simpson and colleagues (2013) added a fourth block, *GLB-related Military Experiences*, when conducting their study in the state of Washington. This addition to the model considered three unique experiences that GLB veterans faced while in the military that heterosexual veterans did not face. *GLB-related Military Experiences* included assessing the degree of anxiety regarding the need to conceal one's sexual orientation while in the military, trauma

experienced in the military related to their sexual orientation, and presence of stressful event designed by military to discover or punish the individual due to sexual orientation. Based on a GLB veteran's unique *GLB-related Military Experiences* was theorized to impact their subsequent usage of the VHA.

Much like how sexual minority individuals in the military faced increased scrutiny for their sexual orientations from their peers in the military, rural individuals face similar scrutiny due to their sexual orientation status from their peers in their communities (Fisher et al., 2013; Preston et al., 2004; Preston, D'Augelli, Kassab, & Starks, 2007). Nonheterosexual veterans face unique barriers to VHA due to experiences specific to being nonheterosexual and a veteran (Simpson et al., 2013), and rural nonheterosexual individuals have similar unique barriers related to being nonheterosexual and living in a rural environment (Leedy & Connolly, 2008; H. Meyer, 2011; Pickett, 2010). Much like in Simpson and colleagues' (2013) usage of the BHM, an addition to the BHM was used to determine if unique factors faced by rural gay, bisexual and other MSM also impact the usage of health care. Using Simpson and colleagues' (2013) addition as a guide (see Figure 2), the BHM was adapted to account for the unique experiences of rural gay, bisexual, and other MSM (see Figure 3). This adaptation to the model accounted for additional stressors and obstacles not faced by rural heterosexual men who do not have sex with men. This addition to the BHM helped highlight the negative impact the additional stigmas can have on rural gay, bisexual and other MSM's health.

Figure 1. Andersen's (1967) original Behavioral Health Model

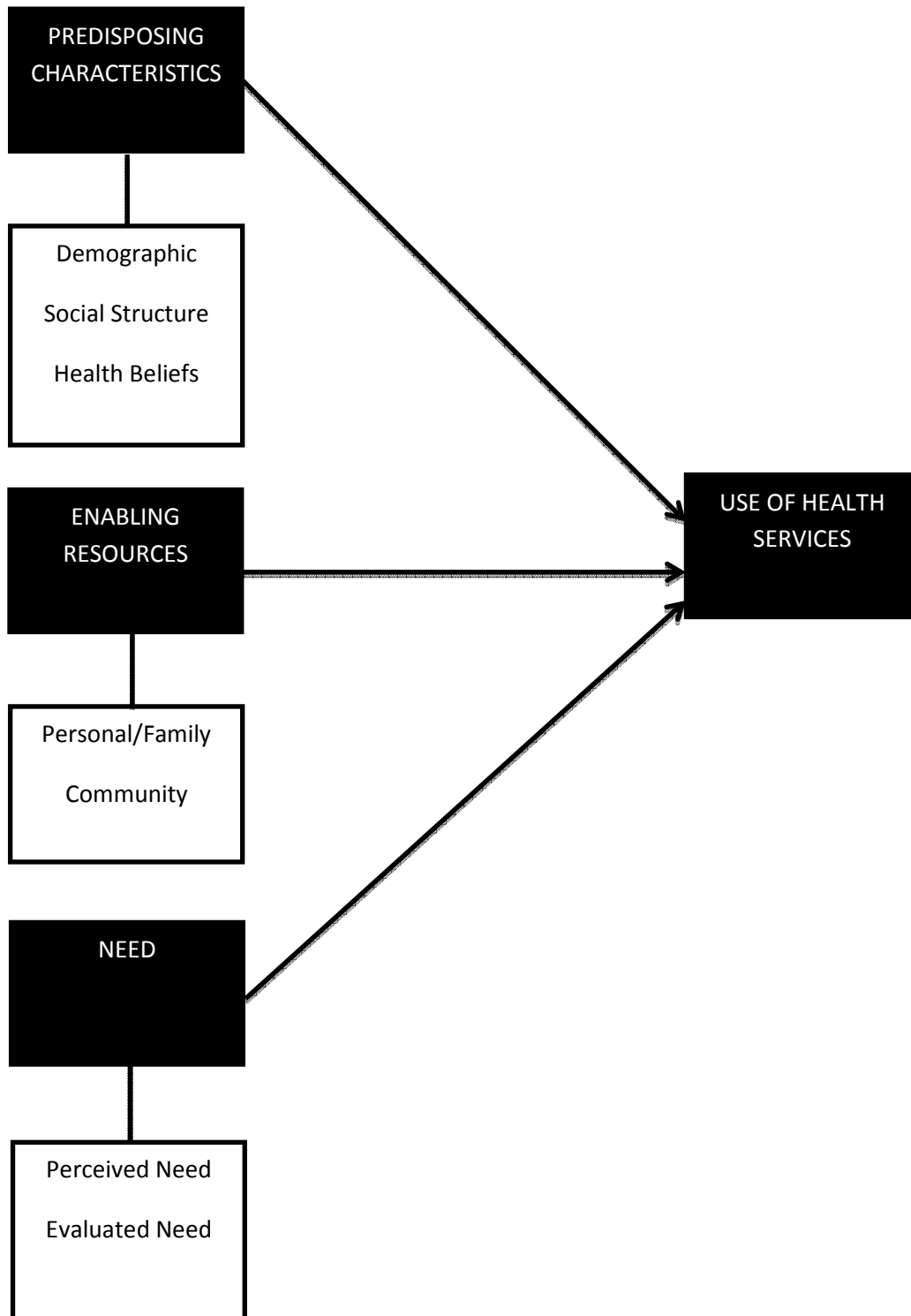


Figure 2. Simpson and colleagues (2013) adapted BHM to account for GLB-related factors among GLB veterans

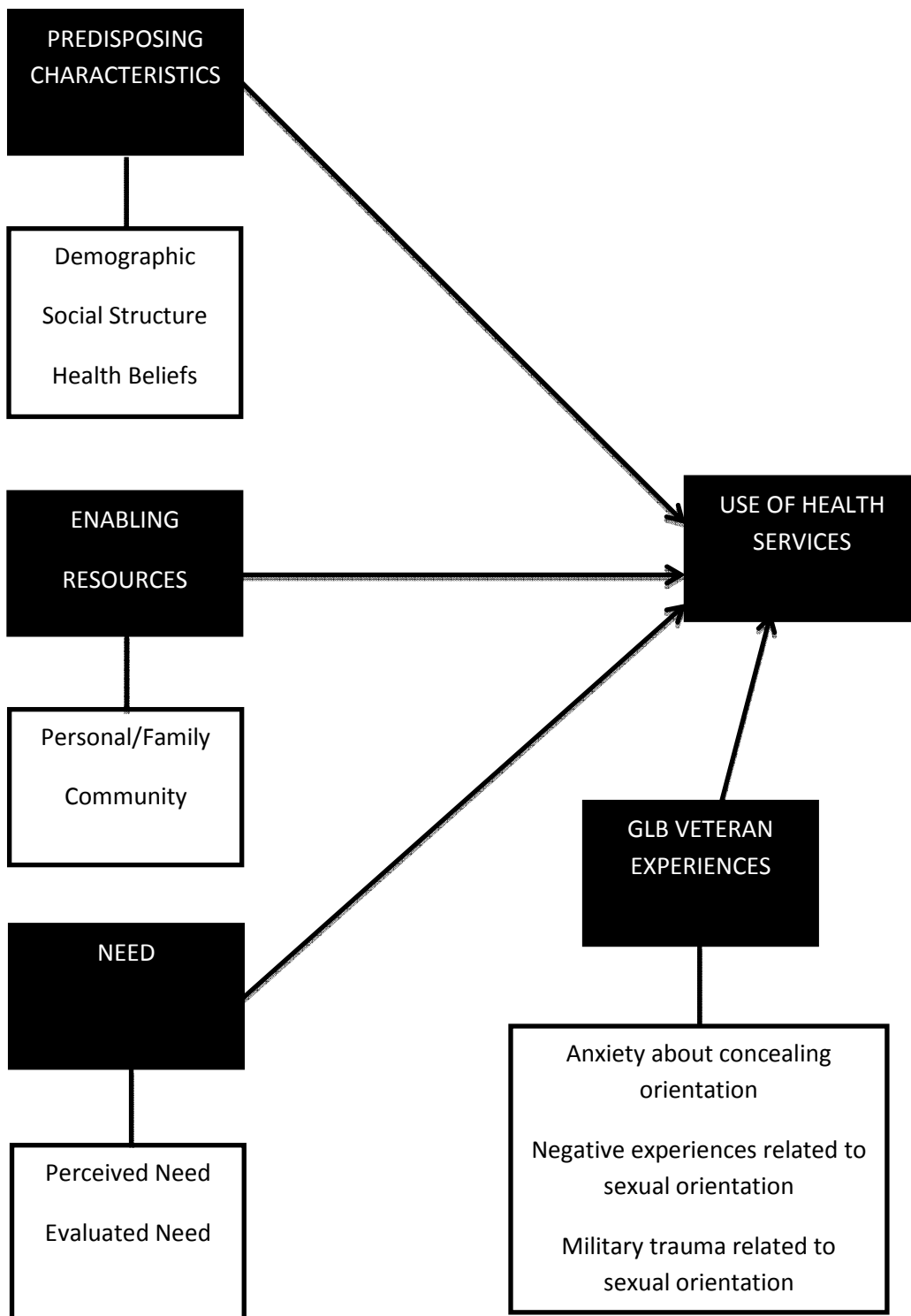
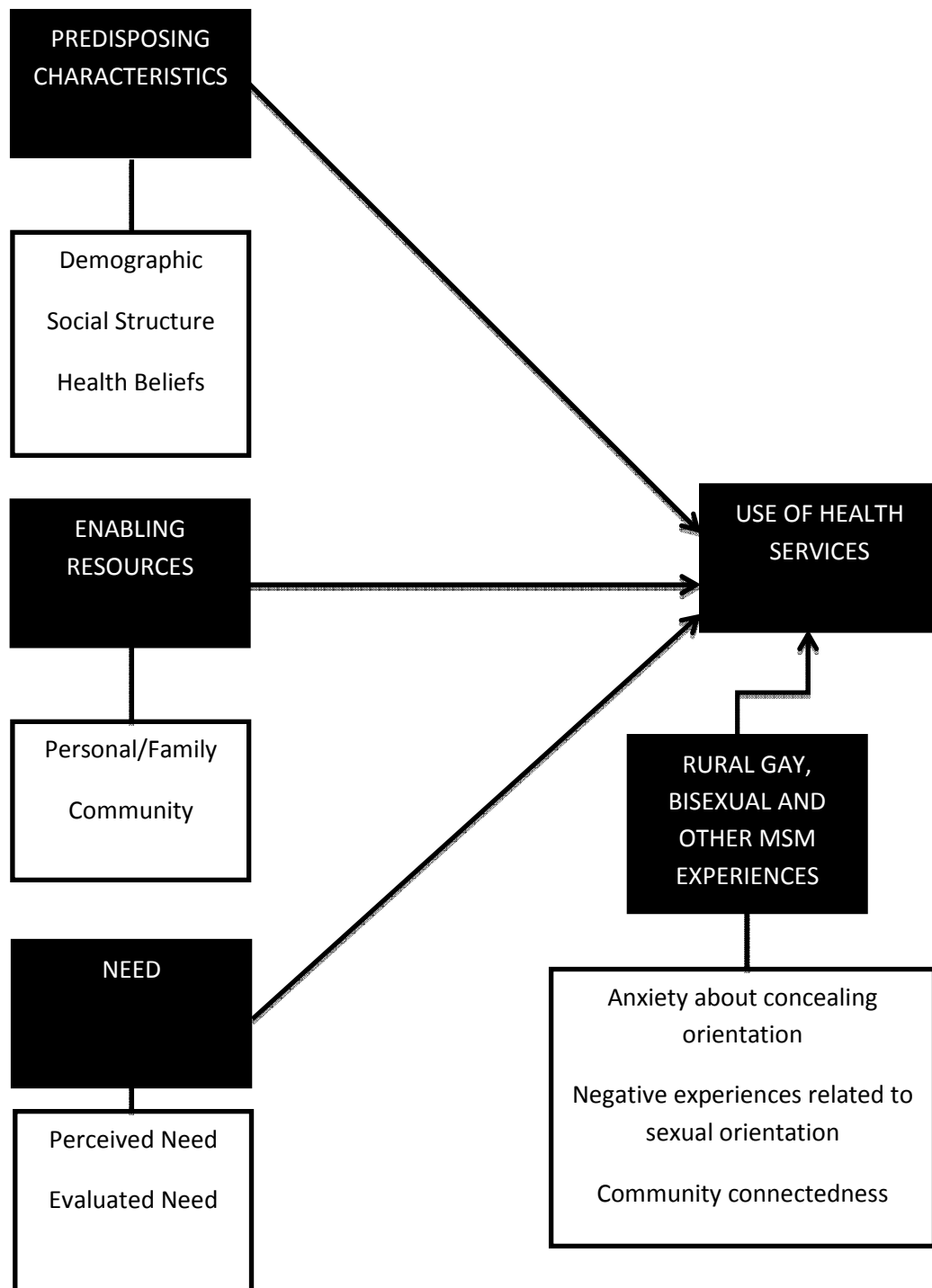


Figure 3. Proposed adapted BHM to account for rural-related factors among rural gay, bisexual, and other MSM



## CHAPTER II

### REVIEW OF LITERATURE

#### **Stigma about Sexual Orientation and HIV Serostatus**

Research has demonstrated that nonheterosexual individuals experience a greater occurrence of mental health problems than their heterosexual counterparts including mood disorders, substance use, and suicidal ideation and attempts (e.g., Cochran, 2001; Newcomb & Mustanski, 2010). In the seminal work regarding this phenomenon, Meyer (1995, 2003) postulates the mental health disparity can be explained by minority stress. Minority stress is “...psychosocial stress derived from minority status. This concept is based on the premise that gay people, like members of other minority groups, are subjected to chronic stress related to their stigmatization” (Meyer, 1995, p. 38). Numerous researchers demonstrate the increased mood, anxiety, and substance use disorders that nonheterosexual individuals suffer based on minority stress as well as the mental health disparities that exist among nonheterosexual individuals (e.g., Eaton, 2014; Gevonden et al., 2014; Hatzenbuehler et al., 2008; Holloway et al., 2014; Lehavot & Simoni, 2011; Shilo & Mor, 2014).



Embedded within the nonheterosexual male population are nonheterosexual men who are living with HIV. This population of men not only experience stigma due to their sexual orientation, but also due to their HIV-positive serostatus as well (Hubach, Dodge, Li, et al., 2015). Hubach and colleagues (2015) observed participants feeling more isolated and separated from other non-heterosexual individuals. This further division of the nonheterosexual community based on HIV-positive serostatus can compound the effects of homophobia and societal pressures to conform to the heterosexual narrative (Kennedy, 2010; Preston et al., 2004) leading to poorer sexual, emotional, and social health (Smit et al., 2012) and increased loneliness and isolation (Hubach, DiStefano, & Wood, 2012).

While research shows that nonheterosexual men experience generalized anxiety, depression, and panic associated with the additional stress due to stigma (Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011; Lelutiu-Weinberger et al., 2013), those living with HIV also have higher rates of post-traumatic stress disorder (PTSD), major depressive disorder, and adjustment disorder when compared to the general public (Berg, Mimiaga, & Safren, 2004; Bing, Burnam, Longshore, & et al., 2001; Traeger, O’Cleirigh, Skeer, Mayer, & Safren, 2012). HIV treatment adherence is negatively impacted more by symptoms from PTSD and depression than from the progression and symptoms of HIV (O’Cleirigh, Skeer, Mayer, & Safren, 2009). Traeger and colleagues (2012) noted that nonheterosexual men living with HIV view themselves as less capable than nonheterosexual HIV-negative serostatus men in most facets of their lives. If these men are able to access mental health care to address their needs, their physical health and adherence to treatments could be improved.

However, the research on stigma and minority stress historically has been primarily conducted in the US Census areas of the Midwest and Northeast. The rural south in the US has the lowest survival rates of HIV compared to the national average of fatality rates in the US (Reif, Wilson, & McAllaster, 2014). Additionally, according to the CDC, 32% of new HIV infection cases were diagnosed in this area even though this area only represents 22% of the total US population (Reif, Whetten, Wilson, & Gong, 2011). For men who have sex with men, 72% of new infections are accounted for by condomless sex and 10% infection is due to either intravenous drug use or having condomless sex with someone who was infected via intravenous drug use (CDC, 2012). Yet, these men face stigma and shame for not only their HIV-positive serostatus, but their sexual orientation as well. This stigma serves to reduce their social status among other individuals solely due to the lack of conformity to society's script of heteronormativity (Goffman, 1963; Meyer, 2003) and the assumption that the individual has done something "wrong" since he has tested positive for HIV (Smit et al., 2012). With this disparity in HIV infection rates and fatality rates as well as societal views of nonheterosexual individuals in the southern US, a need for research to be conducted on barriers to mental and physical health care for rural nonheterosexual individuals exists. Research highlighting the reasons for lack of usage of the current health care system can help provide information on how to increase access to mental and physical health care for this population.

### **Disclosing Sexual Orientation Status and/or Behavior**

Compounded with the minority stress of being nonheterosexual is the stress associated with the decision to disclose a person's nonheterosexual orientation. Men who

disclose they have sex with men to others often expect to be isolated from friends and family members, experience negative mental health outcomes, and possibly attempt suicide (Holloway et al., 2014). This process is known as “coming out.” When a person self-discloses, or “comes out,” this person becomes vulnerable to stigma and negative judgment of those individuals he/she chooses to disclose that information (Serovich, Grafsky, & Reed, 2010; Walls, Wisneski, & Kane, 2013).

Withholding sexual orientation status from a medical or mental health provider could prevent a client/patient from receiving specific services if the provider is unaware of his sexual orientation (Hollander, 2013). Thus for effective care to be given, a man might need to disclose his sexual orientation and/or behaviors with are his mental and physical health care providers. Research has shown that gay men are more apt to disclose their sexual orientation to their healthcare provider if they perceive that provider to be gay friendly or nonheterosexual (Klitzman et al., 2007). While research demonstrates most clients/patients would like the conversation about sexual orientation be initiated by their provider, they also want to know a clear health related reason for the inquiry (Stein & Bonuck, 2001). Two-thirds of veterans in a recent study reported that their providers did not ask about sexual orientation, and 72% do not feel welcomed as LGBT veterans to the VA (Sherman, Kauth, Shipherd, & Street, 2014). With the aging population, the amount of Baby Boomers moving into retirement, and the need for increased medical care that comes with aging; over half of gay and lesbian Baby Boomers felt health care professionals would treat them inappropriately (METLIFE, 2010).

However, unique challenges are ever-present for individuals who choose to disclose sexual orientation to healthcare providers in rural areas, including if that

provider is open to providing care and the knowledge of addressing the specific needs of a nonheterosexual individual (Fisher et al., 2013; Preston et al., 2007; Safran, Hoover, Tao, & Butler, 2013; Yannessa, Reece, & Basta, 2008). Nonheterosexual orientations are not discussed within families or health care as they are in urban settings; and most rural nonheterosexual men have lower levels of self-acceptance, are out to fewer family members and friends; and are less connected to their communities than their urban counterparts (Fisher et al., 2013). This desire to not disclose to health care providers could be due to feared stigmatization by not only family members and friends, but healthcare providers as well (Driskell et al., 2010; Yannessa et al., 2008).

### **Coping with Stigma**

Nonheterosexual men sometimes cope with the feared stigmatization of family members and friends by engaging in HIV-risk related behaviors, including condomless sex and drug use (Preston et al., 2007; Shernoff, 2005). Prior research has shown that engaging in unprotected anal intercourse (UAI) can temporarily decrease feelings of isolation and loneliness due to stigma (Halkitis, Siconolfi, Fumerton, & Barlup, 2008; Hatzenbuehler et al., 2011; Hubach et al., 2012). Loneliness has also been shown to decrease condom use in rural men who have sex with men that are also HIV positive (Hubach, Dodge, Li, et al., 2015; Hubach, Dodge, Schick, et al., 2015). HIV related stigma can even discourage men who have sex with men from getting tested for HIV due to the stigma from their local community as a whole as well as the gay community if they are diagnosed as positive for HIV (Golub & Gamarel, 2013). Individuals have described using drugs to regulate emotions and avoid the feelings of loneliness and isolation (Kelly, Bimbi, Izienicki, & Parsons, 2009; McDavitt et al., 2008). Even when controlling for

variables like age and substance use, anxiety due to stigma still impacted individuals to engage in condomless sex and drug use (Lelutiu-Weinberger et al., 2013). The added stigma that can isolate rural men and impact their physical and mental health can potentially interfere with their use of the health care system.

### **Current Study**

The current study addressed the gap in the literature on unique barriers for accessing mental and physical health services by rural gay, bisexual, and other MSM. Since the majority of research on nonheterosexual individuals is centered in urban areas, this study increased the overall knowledge base of what rural nonheterosexual men experience in terms of seeking mental health services and medical care. Outlined research questions are as follows:

1. Will the proposed BHM (Figure 3) demonstrate unique variables that can predict mental health care and medical care usage by rural gay, bisexual, and other MSM?
  - a. *Hypothesis:* The proposed BHM model will have unique variables that will predict both prior usage over the past year as well as lifetime usage of mental and physical health care facilities.
2. Does the additional minority stress of being a gay, bisexual, or other MSM influence the decision to access rural health care?
  - a. *Hypothesis:* The *Rural Gay, Bisexual, and other MSM Experiences* variable of the proposed model will influence the prediction of health care usage by rural gay, bisexual, and other MSM.

3. Does the level of outness of a rural gay, bisexual, or other MSM reduce the influence of the *Rural Gay, Bisexual, and other MSM Experiences* variable in the proposed model?
  - a. *Hypothesis*: Open disclosure of sexual orientation and/or sexual behaviors will be inversely related to the influence of the *Rural Gay, Bisexual, and other MSM Experiences* variable.

## CHAPTER III

### METHODOLOGY

#### **Participants**

Participants included gay, bisexual, and other MSM in varying levels of rurality recruited from various social and sexual networking sites and applications (e.g., Facebook, Craig's List, Listservs, etc.), flyers posted at local establishments throughout the communities that service gay, bisexual, and other MSM, and at local community events (e.g., pride festivals, etc.). Participants had to be at least 18 years of age or older to participate in the study. All efforts to protect confidentiality were taken and no specific identifying information of the participants was collected. Participants who completed the entire questionnaire received an Amazon gift card valued at \$10. All procedures were reviewed and approved by the affiliated institution's institutional review board to ensure proper treatment of participants throughout the study.

#### **Procedures**

Participants completed a set of measurements and demographic information utilizing an online survey service (Qualtrics). The link was provided in all methods of

advertisement to ensure anonymity of the participant. The online questionnaire contained an Informed Consent document describing for the participant the purposes of the study and, if the participant consented, the participant completed the demographic information and measures. Once the participant completed the online questionnaire, the participant was given a link to a separate online questionnaire where the participant provided an email address if they chose to receive a gift card. The information in the study cannot be matched with the email addresses provided for the receipt of the gift card so anonymity was ensured. This completed the participant's participation in the study. The entire study took a participant approximately 30 minutes to complete.

### **Measures (see Appendix A)**

The following measures are grouped by factor in the proposed model (see Figure 3), beginning with the outcome measure, or *dependent variable*, and then *predisposing characteristics, enabling resources, need, and gay, bisexual, and other MSM Rural experiences*.

### **Dependent Variable**

**Healthcare Utilization.** Participants were asked if they have used any of the following services over the past 12 months, and over their lifetime, in accordance with Simpson and colleagues' (2013) study: General outpatient medical care, specialty outpatient medical care, emergency room, inpatient medical care, vision care, dental care, individual counseling, group counseling, individual substance use treatment, group substance use treatment, inpatient psychiatric care, vocational rehabilitation, social work, clergy/chaplain services, other services.



## **Predisposed Characteristics**

**Demographic Information.** Participants reported age, relationship status, gender identification, race, and ethnic identities.

**Sexual Orientation and Behaviors.** Research suggests when assessing sexual orientation, a multidimensional assessment of sexual orientation that assesses sexual identification, sexual behavior, and sexual attraction should be used (Currin, Gibson, & Hubach, 2015; Kinsey, 1941; Kinsey, Pomeroy, & Martin, 1948; Klein, Sepekoff, & Wolf, 1985; Savin-Williams & Vrangalova, 2013; Vrangalova & Savin-Williams, 2010, 2012). Vrangalova and Savin-Williams (2012) recommend assessing self-identified sexual orientation by asking one question about sexual orientation, two questions about sexual attraction, and two questions about sexual partners.

***Sexual Orientation Identity Label.*** For self-identification of sexual orientation, participants selected from one of five options (heterosexual, mostly heterosexual, bisexual, mostly gay/lesbian, gay/lesbian) from the question “How would you classify your sexual orientation?”

***Sexual Attraction.*** To assess attraction to men, participants selected from a Likert scale where they rated from 1 (not at all) to 7 (very much) on the question “How sexually attracted are you to men?” Participants had the same Likert scale to assess attraction to women, from the question “How sexually attracted are you to women?”

***Sexual Behavior.*** To assess for sexual behavior, the questions “What is the total number of male sexual partners you have had?” and “What is the total number of female sexual partners you have had?” were provided. Participants entered the total number of

male sexual partners and female sexual partners they had. A sexual partner was defined as someone whom the participant has had any penile-vaginal penetration, oral sex, anal sex, and/or mutual masturbation (Vrangalova & Savin-Williams, 2012).

**Gay, Bisexual, or other MSM Health Beliefs.** As in Simpson and colleagues' (2013) study, if a participant endorses not using a service, the participant was asked if the reason for not seeking the service is based on his sexual orientation or sexual behaviors. Additionally, if participants are using a health care provider, participants were asked if they have disclosed their sexual orientation or sexual behaviors to the provider explicitly (i.e. "Have you explicitly informed the provider of your sexual orientation and/or your sexual behaviors?")

### **Enabling Resources**

**Personal/Family.** In the demographic section of the survey, participants indicated their highest level of attained education, income range, confirm whether or not they have medical insurance, and have access to VHA services.

**Rurality.** Currently, several techniques exist on assessing the rurality of where a participant resides. In looking at various LGBT related concerns in a rural context, researchers have chosen to define rurality based strictly on population (Kennedy, 2010; Oswald & Culton, 2003; Oswald & Masciadrelli, 2008), relying on US Census Bureau classifications of rural or urban areas (Fisher et al., 2013; Preston et al., 2004; Preston et al., 2007; Rowan, Giunta, Grudowski, & Anderson, 2013), and more recently using Waldorf's (2007) Index of Relative Rurality (IRR; Hubach, Dodge, Li, et al., 2015; Hubach, Dodge, Schick, et al., 2015).

There is an inherent problem in not using a continuous scale like the IRR to classify an area's rurality. Using discrete labels of rural, urban, metropolitan, micropolitan, etc. are delineated based on arbitrary definitions of what is to be classified as rural and urban (Waldorf, 2007). The main concern is the dichotomous classification that could be a difference of only 1 person. The IRR addresses this concern by assigning an index value from 0 (most urban) to 1 (most rural) based on four dimensions used in rurality measurements, population size, population density, remoteness, and built-up area (Waldorf, 2007; Waldorf & Kim, 2015). Using the IRR allows for a comparison of rurality based on subtle differences between areas instead of artificial categories based on arbitrary assumptions. Therefore, to assess a participant's rurality, the IRR was used by asking the participant to provide the county they currently reside. Then, the IRR value associated with the identified county was used.

### **Need for Services**

**Prior Conditions.** Prior existing conditions of participants will be assessed in the demographic section of the survey. Participants will be asked to indicate if they have a preexisting medical diagnosis that requires ongoing treatment (e.g., HIV, diabetes, cancer, etc.) and/or a preexisting mental health diagnosis that requires ongoing treatment (e.g., Bipolar disorder, schizophrenia, etc.).

**Sexual Behavior History (Lifetime and Event Level).** To assess lifetime and event-level sexual behavior, measures from the National Survey of Sexual Health and Behavior (NSSHB) were used. The NSSHB is a national probability sample of sexual behaviors that was given to 5,865 men and women that ranged in ages from 14 to 94

(Reece et al., 2010). Participants indicated if a particular sexual behavior was done in the past 30 days, past 90 days, past 12 months, more than 12 months ago, and never. Examples of behaviors that were assessed included “A man gave me oral sex” and “I shared sex toys with a partner.”

The NSSHB assessment of sexual behavior is congruent with methods recently employed in large samples of populations within the United States. Notably, event level items will be utilized from the NSSHB (Herbenick et al., 2010; Reece et al., 2010) to evaluate sexual behavior, condom usage, and event characteristics. Participants were asked to indicate if they have been sexually active in the past 12 months and to report sexual activity pertaining to their most recent partner. This included the HIV serostatus (HIV-negative, HIV-positive, HIV-Unknown) of their most recent partner. An unknown HIV serostatus partner encompasses partners who did not know or who did not disclose their HIV status at the time of the sexual event. Similar methods have been employed with rural populations (Hubach, Dodge, Li, et al., 2015).

**Substance Use.** Alcohol use was assessed by the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). AUDIT is a 10 question measure that assesses drinking consumption, behaviors, and alcohol related problems. The AUDIT correctly identified 92% of individuals with a previously diagnosed alcohol related disorder and excluded 94% of individuals who did not have an alcohol related disorder (Saunders et al., 1993).

Drug use was assessed by the Drug Abuse Screening Test-10 (DAST-10; Maisto, Carey, Carey, Gordon, & Gleason, 2000; Yudko, Lozhkina, & Fouts, 2007). The DAST-

10 is a 10 question measure designed to assess the usage and problems associated with drug abuse. The DAST-10 has a Cronbach's alpha ranging from .86 to .94 (Yudko et al., 2007). Furthermore, the AUDIT and DAST-10 have been used in conjunction and were able to screen individuals as having only alcohol related diagnoses, only drug use diagnoses, or dual diagnosis in a clinical population (Maisto et al., 2000).

**Mental Health.** Depression is one of the most common mental illnesses suffered in the general population with a prevalence rate of 4.6% in a national probability sample (Hasin, Goodwin, Stinson, & Grant, 2005), and even higher rates in LGBT populations (Burns, Ryan, Garofalo, Newcomb, & Mustanski, 2014; Lelutiu-Weinberger et al., 2013; Meyer, 1995; Meyer et al., 2008). So to assess for depression symptoms in the sample, the Center for Epidemiological Study of Depression – Revised (CESD-R) questionnaire was used (Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). The CESD-R is a 20 question measure where participants answered on a Likert scale from 0 (*Not at all*) to 4 (*Nearly every day for 2 weeks*) a list of behaviors that the participant might have felt. Some examples were “Nothing made me happy,” and “I wished I were dead.” The Cronbach's alpha is .92 for the CESD-R.

Previous research has highlighted a higher prevalence of post-traumatic stress disorder (PTSD) in non-heterosexual populations when compared to the general population (e.g., Burns et al., 2014; Mustanski, Garofalo, & Emerson, 2010; Traeger et al., 2012). To assess for PTSD, the PTSD Checklist -5 (PCL-5) updated for the Diagnostic & Statistical Manual – 5<sup>th</sup> edition (DSM 5) was used. The PCL-5 is a 20 item measure that has participants rate various symptomology of PTSD from a scale of 0 (*Not at all*) to 4 (*Extremely*). Sample questions on the PCL-5 are “In the past month, how

much were you bothered by repeated, disturbing, and unwanted memories of the stressful experience?” and “In the past month, how much were you bothered by blaming yourself or someone else for the stressful experience or what happened after it?” Forthcoming psychometric work is expected to provide validation measures for the PCL-5 (National Center for PTSD, 2014). The PTSD Checklist for civilians (PCL-C) was based on the DSM-IV diagnostic criteria for PTSD had an internal consistency  $\alpha = .94$  (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). The only differences between the PCL-5 and the PCL-C is the inclusion of three questions to assess for the new diagnostic criteria, an adjustment of the Likert scale from *1(not at all)* to *5(extremely)* to the current *0(not at all)* to *4(extremely)*.

### **GLB Rural Experiences**

**Level of Outness.** To assess the level of disclosure about sexual orientation and sexual behaviors as well as the amount of concealment, the Nebraska Outness Scale (NOS) was used (Meidlinger & Hope, 2014). The NOS is a 10-item scale that measures both the level of concealment and the level of disclosure regarding a person’s sexual orientation and behaviors. The first five questions of the NOS have the participant rate from 0 to 100% in intervals of 10% of how aware the people are of the participant’s sexual orientation. For example, “What percent of the people in your immediate family do you think are aware of your sexual orientation?” The last 5 questions ask the participant how often the participant avoids discussing his sexual orientation in the same groups based on an 11 point Likert scale with *1(Never)*, *6(Half the Time)*, and *11(Always)*. For example, “How often do you avoid talking about topics related to or otherwise indicating your sexual orientation with people at your work/school?”

The NOS showed both significant convergent validity with the Outness Inventory ( $r = .84$ ), discriminant validity with the Internalize Homophobia Scale ( $r = -.45$ ), the Gay Related Rejection Sensitivity Scale ( $r = -.20$ ) and predictive validity with the Quality of Life Inventory ( $r = .20$ ) and Social Support Questionnaire ( $r = .30$ ; for a full review see Meidlinger & Hope, 2014). Since the NOS did not specifically address medical and mental health providers or staff, the following groups were included as part of the NOS assessment: mental health professionals/counselors/therapists, medical providers/doctors, staff other than mental health providers, and staff other than medical providers.

**Community Connectedness.** To measure how involved or connected a person is with a community, the community connectedness scale of the Relational Health Indices (RHI-C) was used. The RHI-C has 14 questions where the participant will rate on a Likert scale from 1 (*Seldom*) to 5 (*Always*) statements that describe how connected a person is to the community. An example of some questions are “I have a greater sense of self-worth through my connection to this community,” and “There is a lot of backbiting and gossiping in this community.” The RHI-C has an overall Cronbach’s  $\alpha = .87$  (Liang et al., 1998).

**Social Stigma/Rejection.** The Gay-Related Rejection Sensitivity Scale (GRRSS) is a 14 item scale that measures an LGB individual’s expectation of rejection by heterosexual peers (Pachankis, Goldfried, & Ramrattan, 2008). The GRRSS has a Cronbach’s alpha of .80 (Pachankis & Goldfried, 2010). Participants rate how anxious they would be regarding different scenarios that could be cause social isolation or rejection and has the participant rate the situation on a Likert scale from 0 (*Very unconcerned*) to 6 (*Very concerned*) and how likely the result would occur based on

sexual orientation 0 (*very unlikely*) to 6 (*very likely*). An example of one of the 14 scenarios is “You go to a party and you and your partner are the only gay people there. No one seems interested in talking to you.”

**Religious/Spirituality.** To assess the impact religion and/or spirituality may have on a person’s life, modified versions of the Daily Spiritual Experiences (DSE; Underwood & Teresi, 2002) and the Religious/Spiritual Coping (RSC; Pargament, Feuille, & Burdzy, 2011) scales were used. The modified versions were adapted as subscales for a multidimensional measurement of how religion and spirituality can be used in health research (Fetzer, 2003). The DSE is designed to measure the impact that God (or the divine, the interpretation is up to the participant) has on a person’s experience in daily life. The DSE is a six item measure where participants rank items like “I feel God’s presence” from 1 (many times a day) to 6 (never or almost never). The RSC assesses how someone copes religiously or spiritually, and if those coping behaviors are reflective of positive or negative experiences with religion/spirituality. The RSC is a seven item measure where participants rank items like “I wonder whether God has abandoned me,” from 1 (a great deal) to 4 (not at all).

## **Data Analysis**

**Bivariate Analysis.** To ensure there was a difference in the populations for rural gay, bisexual and other MSM that utilize health care from those that do not in both the 12 month interval as well as lifetime utilization models for general medical care and mental health care, univariate analysis was conducted. Independent *t*-tests or chi-square test of independence were used in analysis depending on variable type. This was done to ensure



that the number of variables used in the regression models are reduced to only variables that are significantly different, as done in previous work (see Simpson et al., 2013). An alpha level of  $p < .05$  was used to determine significance.

**Multivariate Analysis.** Hierarchical logistic regressions were conducted to determine the relationship for general medical care over the past 12 months (GMC-12), general medical care over the life span (GMC-L), mental health care over the past 12 months (MHC-12), and mental healthcare over the life span (MHC-L). For each model that reliably predicts health care usage, the Wald statistic ( $p < .05$ ) was used to determine significant predictors of each model. Consistent with previous studies using the BHM (Elhai, Grubaugh, Richardson, Egede, & Creamer, 2008; Fasoli, Glickman, & Eisen, 2010; Simpson et al., 2013) hierarchical regression is chosen so each variable in the adapted BHM can be examined separately as well as controlled. The blocks will be entered in the following order: 1) predisposed characteristics, 2) enabling factors, 3) perceived need, and 4) gay, bisexual, and rural MSM experiences.

## CHAPTER IV

### FINDINGS

#### **Participant Sociodemographics**

In total 209 cisgender men, who either identified as having a nonheterosexual sexual orientation or endorsed having sex with men, participated in the study. The mean age for the sample was 34.6 years (SD 12.2 years). The majority of the sample identified as white (168, 80.4%), having an associate's degree or some college education (86, 41.1%), an income between \$20,001 and \$40,000 (65, 31.1%), and as single/never married (70, 33.4%). Furthermore, most identified as being HIV negative (160, 76.6%), having insurance (200, 95.7%), not having been diagnosed with a sexually transmitted infection (STI) in the past two years (187, 89.6%), having not been diagnosed with a mental illness in the past two years (133, 63.4%), and living in an urban county (105, 50.2%; see Table 1 for further demographic breakdown). The majority of the sample identified having seen a doctor for general medical care in the past year (144, 68.9%) as well as during their lifetime (192, 91.8%). For mental health care usage, 53 (25.4%) identified as receiving individual counseling in the past year and 135 (64.5%) identified as receiving individual counseling during their lifetime.

**Table 1.** Demographic Information and Utilization of General Medical and Mental Health Care

	Overall	Used Mental Healthcare		Used Medical Healthcare	
		Last Year	Lifetime	Last Year	Lifetime
<i>N</i>	209	53	135	144	192
Age (SD)	34.6 (12.2)	34.2 (11.5)	35.3 (11.7)	36.1 (12.4)	35.3 (12.3)
Ethnicity					
White	168	43	113	119	161
American Indian/Alaskan Native	16	2	10	8	12
Hispanic/Latino	15	4	5	10	12
Asian/Pacific Islander	5	3	4	4	4
Black	2	0	2	2	1
Other	3	1	1	1	1
Education Level					
Less than HS	3	1	2	2	3
HS Diploma/GED	33	8	16	17	25
Some College	86	20	59	57	77
Bachelor's Degree	50	16	36	37	50
Master's Degree	32	7	19	28	32
Doctorate Degree	5	1	3	3	5
Income Level					
\$10,000 or less	38	8	24	22	31
\$10,001 to \$20,000	32	10	16	20	28
\$20,001 to \$40,000	65	15	43	40	59
\$40,001 to \$60,000	39	11	28	36	39
\$60,001 to \$80,000	12	2	8	9	12
Over \$80,000	17	4	12	11	17
Refuse to Answer	6	3	4	6	6
Sexual Orientation					
Bisexual	10	4	8	8	11
Mostly Gay	12	2	11	7	0
Gay	186	47	116	129	171
Relationship Status					
Single, Never Married	70	22	44	51	62
In a Committed Relationship (not living together)	28	6	14	17	24
In a Domestic Partnership (living with committed partner)	54	13	38	39	51
Married	36	10	23	23	35
Separated/Divorced/Widowed	13	1	9	8	13
Other	8	1	7	6	7
HIV Status					
Negative	160	42	105	109	150
Positive	32	6	22	26	31
Unknown	17	5	8	9	11
Insurance (including VHA)					
Yes	200	48	130	139	183
No	9	5	5	5	9
Reported STI past 2 years					
Yes	22	7	16	16	20

No	187	46	119	128	172
Diagnosed Mental Illness past 2 years					
Yes	76	39	69	55	70
No	133	14	66	89	122
Residence					
Urban County	105	29	67	76	95
Periurban/Rural County	104	24	68	68	97

### **Bivariate Associations for General Medical Care and Mental Health Care**

The bivariate analysis for variables associated with general medical care during the past year and lifetime are in Table 2. Significant differences in those who used general medical care over the past 12 months were associated with age, income, and disclosing sexual orientation status. Significant differences were found for lifetime use of general medical care and age, income, ethnicity, education level, and HIV status.

Associations for mental health care use in the past 12 months and lifetime for all variables are available in Table 3. The variables of insurance, previous mental health diagnosis in the past 2 years, PTSD symptoms reported on the PCL-5, depression symptoms reported on the CESD-R, beliefs that one would be rejected based on sexual orientation as reported by the GRRSS Belief subscale, and disclosure of sexual orientation were associated with mental health care use in the past 12 months. For lifetime use, only the variables of previous mental health diagnosis and disclosure of sexual orientation were significant.

### **Multivariate Predictors for General Medical Care**

Lifetime general medical care (GMC-L) was predicted using hierarchical logistic regression ( $\chi^2(7) = 72.56, p < .001$ ). Using a general medical provider in one's lifetime

was predicted by ethnicity, education level and reporting HIV status. Odds ratios demonstrated that reporting a positive HIV status a person was 13% more likely to have used medical care in their lifetime (OR = 0.13 [0.03, 0.60],  $p = .03$ ) Also, having a higher education level (OR = 0.36 [0.15, 0.90],  $p = .03$ ) and being White (OR = 7.54 [2.10, 27.02],  $p = .002$ ) were significant predictors as well. The Hosmer and Lemeshow

**Table 2.** Univariate Analysis of Variables for General Medical Care

Variables	Lifetime				Past Year			
	$t$	$\chi^2$	$df$	$p$	$t$	$\chi^2$	$df$	$p$
Predisposed Characteristics								
Age	4.74		26	<.001**	2.68		207	.008*
Relationship Status		5.66	8	.68		4.87	8	.77
Ethnicity		18.04	1	<.001**		1.50	1	.22
Enabling Resources								
Income		12.86	6	.04*		17.43	6	.008*
Education		20.05	6	.003*		10.90	6	.09
Insurance		0.833	1	.36		0.78	1	.37
County IRR	-1.30		18	.21	-1.59		110	.11
Need								
HIV Status		18.61	2	<.001**		4.34	2	.11
STI Status		0.03	1	.86		0.17	1	.68
Mental Health		0.09	1	.92		0.67	1	.41
Diagnosis								
AUDIT	-0.48		207	.63	-0.07		207	.94
DAST	-0.20		207	.84	0.26		207	.79
PCL-5	-1.30		17	.21	-0.58		207	.56
CESD-R	-1.63		17	.12	-1.78		107	.08
Rural MSM Experiences								
RHI-Community	1.18		207	.24	0.56		207	.57
GRRSS-Anxiety	-0.33		17	.74	0.55		207	.58
GRRSS-Belief	-0.77		17	.45	-0.63		103	.53
DSE	-0.20		205	.85	-0.94		205	.35
RSC	-1.73		205	.20	-1.31		205	.19
NOS-Disclosure	1.88		17	.08	2.31		98	.02*
NOS-Concealment	-0.44		18	.67	0.50		207	.62

**Note:** Categorical variables had a  $\chi^2$  test of independence analysis; Ratio and interval variables had an independent  $t$ -test analysis; \*  $p < .05$ , \*\* $p < .001$

**Table 3.** Univariate Analysis of Variables for Mental Health Care

Variables	Lifetime				Past Year			
	<i>t</i>	$\chi^2$	<i>df</i>	<i>p</i>	<i>t</i>	$\chi^2$	<i>df</i>	<i>p</i>
Predisposed Characteristics								
Age	1.15		207	.25	-0.25		207	.80
Relationship Status		8.45	8	.39		5.49	8	.71
Ethnicity		2.67	1	.10		.025	1	.87
Enabling Resources								
Income		4.27	6	.64		3.74	6	.71
Education		6.98	6	.32		3.40	6	.76
Insurance		0.34	1	.56		4.53	1	.03*
County IRR	-0.10		207	.92	-1.14		207	.26
Need								
HIV Status		2.60	2	.27		0.95	2	.62
STI Status		0.71	1	.40		0.54	1	.46
Mental Health		25.85	1	<.001**		42.51	1	<.001**
Diagnosis								
AUDIT	-0.36		207	.72	0.25		75	.80
DAST	0.79		207	.72	1.42		207	.45
PCL-5	1.90		207	.06	3.52		76	.001*
CESD-R	1.88		207	.06	2.65		207	.009*
Rural MSM Experiences								
RHI-Community	0.07		207	.94	-0.54		207	.59
GRRSS-Anxiety	-0.31		207	.75	1.88		207	.06
GRRSS-Belief	-0.80		207	.43	2.10		207	.03*
DSE	-0.22		205	.83	-0.77		205	.44
RSC	0.20		205	.85	-0.82		205	.42
NOS-Disclosure	3.63		207	<.001**	3.01		207	.003*
NOS-Concealment	-0.88		207	.38	1.06		207	.29

**Note:** Categorical variables had a  $\chi^2$  test of independence analysis; Ratio and interval variables had an independent *t*-test analysis; \*  $p < .05$ , \*\*  $p < .01$

Test for the final model indicated there was not a significant lack of fit ( $\chi^2(8) = 3.14$ ,  $p = .93$ ). General medical care use during the past 12 months (GMC-12) was predicted as well using hierarchical logistic regression ( $\chi^2(7) = 31.63$ ,  $p = .003$ ), however no significant individual predictors were present. The Hosmer and Lemeshow Test for the final model also indicated there was not a significant lack of fit ( $\chi^2(8) = 7.18$ ,  $p = .52$ ).

Table 4 contains all predictors and odds ratios for both models. The addition of the Rural

Gay, Bisexual, and other MSM Experiences block into the model was not significant for both lifetime general medical use ( $\chi^2(1) = 1.32, p = .25$ ) and for past year general medical use ( $\chi^2(1) = 2.91, p = .09$ ). Power for the logistic regression models was determined using Peduzzi and colleagues (1996) method. The total number of participants needed for the GMC-12 model was 156, and for the GMC-L model was 875. There were 209 total participants. Therefore, the GMC-12 model had power, but the GMC-L model does not have power.

### **Multivariate Predictors for Mental Health Care**

Both the model predicting lifetime mental health care use (MHC-L;  $\chi^2(6) = 41.57, p < .01$ ) and past year mental health care use (MHC-12;  $\chi^2(6) = 53.26, p < .01$ ) were significantly predicted using hierarchical logistic regression. The Hosmer and Lemeshow Test for both the MHC-L model ( $\chi^2(8) = 6.79, p = .55$ ) and the MHC-12 model ( $\chi^2(8) = 11.48, p = .18$ ) demonstrated there was not a lack of significant fit for the models. The MHC-L model was significantly predicted by the significant predictor of disclosing sexual orientation to others as measured by the NOS-Disclosure scale (OR = 0.81 [0.70, 0.93],  $p = .005$ ) and by having a previous diagnosis of a mental illness (OR = 0.16 [0.07, 0.38],  $p < .001$ ). Mental health care use in the past year was predicted by the same variables: NOS-Disclosure scale (OR = 0.80 [0.67, 0.96],  $p = .017$ ) and having a diagnosis of a mental illness (OR = 0.15 [0.07, 0.32],  $p < .001$ ). Table 5 contains all predictors and odds ratios for both models. The addition of the Rural Gay, Bisexual, and other MSM Experiences block into the model was significant for both the MHC-L model ( $\chi^2(2) = 11.06, p = .004$ ) and for the MHC-12 model ( $\chi^2(2) = 7.06, p = .03$ ). The total number of participants needed for the MHC-12 model to obtain power based on Peduzzi

and colleagues (1996) was 176, and for the MHC-L model was 111. Both mental health use logistic regression models had power.

**Table 4.** Logistic Regression Predictors of Lifetime and Past Year General Medical Care Use

Predictors	Lifetime OR (95% CI)	Past Year OR (95% CI)
Predisposing Characteristics		
Age	0.96 [0.89, 1.04]	0.98 [0.95, 1.01]
Ethnicity	7.54 [2.10, 27.01]*	1.33 [0.62, 2.86]
Enabling Resources		
Income	0.78 [0.42, 1.45]	0.95 [0.84, 1.07]
Education	0.36 [0.15, 0.90]*	0.82 [0.63, 1.06]
Need		
HIV Status (Positive)	0.13 [0.03, 0.60]*	0.69 [0.23, 2.03]
HIV Status (Unknown)	0.27 [0.02, 3.67]	0.52 [0.13, 2.13]
Rural Gay, Bisexual, and Other MSM Experiences		
Level of Disclosure	0.86 [0.67, 1.11]	0.89 [0.77, 1.02]

**Note:** \*  $p < .05$ ; OR = Odds Ratio; CI = Confidence Interval

**Table 5.** Logistic Regression Predictors of Lifetime and Past Year Mental Health Care Use

Predictors	Lifetime OR (95% CI)	Past Year OR (95% CI)
Enabling Resources		
Having Medical Insurance	0.36 [0.07, 1.84]	2.76 [0.51, 14.91]
Need		
Previous Mental Health Diagnosis	0.16 [0.07, 0.38]*	0.45 [0.07, 0.32]*
PCL-5 Score	1.00 [0.97, 1.04]	0.98 [0.95, 1.01]
CESD-R Score	0.98 [0.96, 1.02]	1.01 [0.98, 1.05]
Rural Gay, Bisexual, and Other MSM Experiences		
Level of Disclosure	0.81 [0.70, 0.94]*	0.80 [0.67, 0.96]*
GRRSS-Belief	1.01 [1.00, 1.03]	0.99 [0.97, 1.01]

**Note:** \*  $p < .05$ ; OR = Odds Ratio; CI = Confidence Interval; PCL-5 = PTSD Checklist version 5



## CHAPTER V

### CONCLUSION

Ilan Meyer, while noting the progress that LGBT individuals have made in terms of marriage equality and social acceptance, stated, “Intersections of sexual orientation and gender identity by race/ethnicity, gender, socioeconomic status, geographic region, religiosity, among others, are the types of social contexts that impact LGBT lives and health” (Meyer, 2016, p. 1357). The purpose of the current study was to examine those intersections to determine if any unique barriers existed to accessing healthcare for rural gay, bisexual, and other MSM living in Oklahoma by using the BHM. In addition, this study strived to determine if adding a block to account for unique rural gay, bisexual, and other MSM experiences to Anderson and Andersen’s (1967) behavioral health model would significantly influence the decision to seek both medical and mental health care.

#### **Medical Care Use**

Bivariate analysis revealed that significant differences among participants were present in health care use in the past year as well during their lifetime. Individuals were more likely to use medical care if they were older, reported higher income, and reported higher levels of disclosure of their sexual orientation. For lifetime medical care use, men

were more likely to report use if they were older, identified as non-white, had higher income and education levels, and tested positive for HIV. Use of medical services based on age (e.g., Klitzman & Greenberg, 2002), ethnicity (Fiscella, Franks, Doescher, & Saver, 2002), income levels, education levels (Hadley, 2003), reporting living with HIV (CDC, 2011), and screening higher for depression (Alvy, McKirnan, DuBois, Jones, Ritchie, & Fingerhut, 2011) are demonstrated in previous research.

While prior studies have demonstrated that individuals who do not disclose their sexual orientation to their providers can prevent them from receiving care indicated for MSM (Eliason & Schope, 2001; Hollander, 2013), this study is one of the first to demonstrate a significant difference in the use of medical services based on overall disclosure of a person's sexual orientation in their life. When a man who engages in MSM does not disclose his behaviors to his provider, he deprives himself of specific medical interventions to keep himself healthy (e.g., PrEP; Eliason & Schope, 2001; Hollander, 2013). This could be demonstrating the impact living in a rural, conservative community can have on a nonheterosexual man's health. If a man is choosing to not seek health care at all based on fears or concerns about disclosing his sexual behaviors, then this choice could be a cause of the healthcare disparity in non-heterosexual individuals.

Multivariate analysis on medical care use both in the past year and lifetime was inconclusive. While both models were significant, the MHC-12 model did not have any significant unique predictors. The MHC-L model did have two unique significant predictors, but lacked statistical power. Even with the lack of findings in the multivariate analysis, the significant differences in the univariate analysis demonstrated how a

person's uncomfortableness with disclosing his sexual orientation in general, not just to a medical provider, can be a barrier to accessing medical health care.

### **Mental Health Care Use**

Bivariate analysis revealed significant differences in mental health care use for both lifetime and previous year usage. Men who had health insurance, a previous mental health diagnosis in the past two years, had higher screenings for PTSD and Depression, were not as worried about being rejected for being gay, and more openly disclosed their sexual orientation were more likely to have used mental health services in the past year. For lifetime mental health use, men who were diagnosed in the past 2 years and were more open about disclosing their sexual orientation were more apt to have used mental health care services. The minority stress literature (e.g., Meyer, 1995) and research discussing the mental health disparities among nonheterosexual men when compared to their heterosexual peers (Cochran, 2013) frame the findings of having a previous mental health diagnosis and reporting higher PTSD and depression symptoms being associated with using mental health services. Alvy and associates (2011) identified that MSM have barriers to accessing both mental and physical health care. The current study identifies unique barriers that MSM face when attempting to access mental health care, namely believing rejection is based on sexual orientation/behaviors and lack of disclosure of sexual orientation.

Unlike the models for medical care use, both models for mental health care use (MHC-12 and MHC-L) were significant and had statistical power. Both models had the same significant predictors, level of disclosure of sexual orientation and having a

previous mental health diagnosis. The consistent presence in both univariate analysis as well as multivariate analysis demonstrate that when predicting mental health care use among MSM using the BHM, higher level of disclosure about sexual orientation was significantly related to greater mental health care use.

## **Overall Findings**

The first hypothesis that the BHM would have unique variables that predict prior use for both mental and medical health care was supported. Significant differences for both medical and mental health care use existed within the participants. Additionally, the hypothesis that open disclosure of sexual orientation and/or sexual behaviors will be inversely related to influence of the *Rural Gay, Bisexual, and other MSM Experiences* block in the modified BHM was partially supported. In both mental health models and in the GMC-12 model, disclosure of sexual orientation was inversely related to health care use. The *Rural Gay, Bisexual, and other MSM Experiences* block of the proposed model was hypothesized to influence the prediction of health care usage by rural gay, bisexual, and other MSM. The *Rural Gay, Bisexual, and other MSM Experiences* block influenced the prediction of health care use in all models except the GMC-L model.

Previous researchers have documented the higher prevalence rates of health disparities that exist among non-heterosexual individuals (e.g., Cochran, 2001; Meyer, 1995; 2003; Newcomb & Mustanski, 2010). The overall findings support that both medical and mental health care use is influenced by unique experiences that rural gay men face. This is particularly salient in that these findings collectively suggest the conservative environment that some gay men find themselves living can be a cause to the

disparity in health. Men living in Oklahoma who do not feel comfortable disclosing their sexual orientation also do not seek mental or medical care as often as their counterparts who are more open about disclosing their sexual orientation. Gay, bisexual and other MSM who live in the South face a more conservative environment due to controlling images about strict definitions of male sexuality based on social norms and religion (Barton, 2012; Whitlock, 2013). Rural individuals who face discrimination in their communities for their sexual orientation (Fisher et al., 2013; Preston et al., 2004) may be less willing to seek health care for the fear of having to disclose information they are not willing to disclose. This study is one of the first to highlight how lack of disclosing sexual orientation in general, not just to providers, can interfere with them seeking mental and medical health care.

Important to note, however, is that while adding the additional block *Rural Gay, Bisexual, and other MSM Experiences* was significant, a participant's rurality was not a significant predictor. Rurality did not impact the use of mental health or medical services either in the past year or during a person's lifetime. The lack of difference could be due to the relatively conservative environment that permeates the sociopolitical culture of Oklahoma, regardless of rurality. Future research would benefit from determining if rurality is an impact for other states with similar sociopolitical cultures like Texas, Arkansas, and Kansas.

## **Implications**

The current study informs mental health care professionals and health care providers about the unique struggles and obstacles that rural gay, bisexual, and other

MSM face when attempting to access services. Many are hesitant to disclose sexual minority status (Politi, Clark, Armstrong, McGarry, & Sciamanna, 2009) due to prior experiences or possible fear of stigmatization. The hesitancy to disclose sexual orientation or sexual behaviors is best framed in the concept of structural stigma.

Structural stigma is defined as “societal-level conditions, cultural norms, and institutional policies and practices that constrain the opportunities, resources, and well-being of the stigmatized,” (Oldenburg et al., 2015, p. 838). Research into structural stigma have documented health disparities of nonheterosexual individuals living within these environments (Bränström, Hatzenbuehler, Pachankis, & Link, 2016; Link & Hatzenbuehler, 2016; Oldenburg et al., 2015). Specifically, Bränström and colleagues’ (2016) findings on structural stigma highlight unequal access to mental health care and medical care as a main underlying cause to the existing health disparities.

The results from the current study demonstrate the impact structural stigma may be having on men who have sex with men in Oklahoma. Previous research shows that anxiety about rejection based on disclosure of sexual orientation and identifying with the gay community can lead to sexual risk taking behaviors (e.g., Preston, et al., 2004), higher mental health concerns like depression (e.g., Cochran, 2001; Link & Hatzenbuehler, 2016; Newcomb & Mustanski, 2010), and increased drug use (e.g., Lelutiu-Weinberger, et al., 2013). Individuals tend to use avoidance as a strategy of coping with potential stigmatization when they have previously experienced it (McDavitt, et al., 2008). Participants in the current study may be avoiding disclosing sexual orientation and sexual behaviors based on previous negative experiences. Therefore, the unique social milieu of living in a rural, conservative location creates a unique barrier to

accessing services. If individuals are not seeking mental health care or medical care due to fear of disclosing sexual orientation, then providers are unable to address these concerns and help alleviate the disparity that exists in health care.

Mental health providers are uniquely positioned to advocate for rural gay, bisexual, and other MSM due to mental health providers' willingness to have conversations around sexual health and sexual minority status. Rural LGBT mental health is heavily influenced by the sociocultural environment as well as the presence or lack of LGBT social support groups (Willging, Salvador, & Kano, 2006). Due to the potential isolation, mental health providers helping sexual minority men locate welcoming and friendly providers (Klitzman & Greenberg, 2002; Sherman et al., 2014) can help ensure that their clients receive services they might not otherwise receive if their sexual minority status is not known (Hollander, 2013) including information about HIV testing, PrEP, and local and community support groups. Counselors can help gay men navigate the culture of medicine of doctors and other health care providers who do not discuss client sexuality and sexual behaviors (Beehler, 2001; Mosack, Brouwer, & Petroll, 2013). Furthermore, counselors can provide training for providers of LGBT mental and medical care on how to promote the openness of their practices to facilitate confidential disclosure of sexual orientation within these practices to ensure proper care (Whitehead, Shaver, & Stephenson, 2016).

Research on mental health interventions for rural LGBT populations is sparse. A recent study describing the implementation of a program in rural New Mexico, called "LGBTQ Peer Advocate Intervention Program," was designed to train lay people from rural LGBTQ communities to connect individuals in need with pro-LGBTQ affirming

services (Willging et al., 2016). Training peers to help connect isolated individuals from supportive, affirming communities can help reduce the health disparities that currently exist (Willging et al., 2006). Rural individuals in Oklahoma may benefit from the development of a similar program. Individuals in rural communities are aware of their healthcare needs and the barriers preventing them from seeking care. Research looking into how to help facilitate the care is necessary to understand how the specific sociocultural aspects of a given location influence help seeking behaviors for rural LGBT individuals (Kano, Silva-Bañuelos, Sturm, & Willging, 2016).

The results of the current study demonstrate the harm policy makers and advocates for anti-LGBT legislation can unintentionally cause when policies stigmatize LGBT individuals. Before the *Obergefell v. Hodges* (2015) decision on marriage equality, LGBT individuals living in states that specifically banned same-sex marriage demonstrated a 37% increase in mood disorders, 42% increase in alcohol use, and a 248% increase in generalized anxiety disorder compared to LGBT individuals living in states with no bans (Link & Hatzenbuehler, 2016). After Massachusetts became the first state to allow same-sex marriage, there was a 15% decrease in costs associated with mental and medical health care among LGBT individuals (Hatzenbuehler, O’Cleirigh, Grasso, Mayer, Safren, & Bradford, 2012).

Recent legislation passed in Tennessee allowing mental health providers to refer clients to other providers based on sexual orientation (Protecting, 2016) raises concerns again about how structural stigma will impact LGBT clients seeking mental health services in the state. When policies are disaffirming to LGBT individuals, the increase in actual and perceived stigma from providers can create barriers for service (Whitehead et



al., 2016). If a person fears stigma from disclosing sexual orientation and policies that allow providers to refuse service based on sexual orientation, non-heterosexual individuals may be less inclined to seek out mental or medical health care. The perceived heterosexist care environment thus perpetuates the healthcare disparity that exists for LGBT individuals. The ability to predict mental health care use based on disclosure of sexual orientation in the current sample demonstrates how this barrier can impact health.

### **Limitations**

As in all studies, several limitations in this study are present. One is the sample collected was a convenience sample, and not a random sample. Underrepresented populations are difficult to reach due to a multitude of reasons. In the current study, access to the population being researched was hindered by location and level of disclosure about sexual orientations and behavior. In instances of hard to reach populations, convenience sampling via the internet is an efficient and cost effective way to access these hidden populations (Bowen, 2005; Mathy, Schillace, Coleman, & Berquist, 2002).

Another limitation was the population sample primarily came from rural Oklahoma. This could impact the generalizability of the study to the entire rural gay, bisexual, and other MSM population. However, in line with the land grant status of Oklahoma State University, it is important to follow the mission of OSU by advancing the quality of life of Oklahomans. Very few studies look at mental and physical health access of rural gay, bisexual, and other MSM, so the information from this study helps to inform future studies looking at rural sexual minority populations and health care access.

While these findings are generalizable to other rural areas around Oklahoma (e.g., rural areas in Texas, Kansas, Arkansas) Future studies looking at health care disparities in other rural areas of the United States are warranted.

How long term medical care was assessed is also a limitation to the current study. We asked individuals if they had ever received any medical care in their lifetime, and 91.8% of respondents reported that they indeed had. However, this could have included seeing a medical doctor as a child or before they began engaging in sex with men. A better way to assess the general medical care question would have been to add a time limit to the question, possibly assessing the past 10 years. Furthermore, a better assessment of a previous medical condition was needed and other than HIV, was not assessed in this study. With a mean age of 34.9, participants in this study might be seeing medical providers for chronic medical conditions and this study did not capture that information.

## **Conclusion**

These limitations notwithstanding, the current study adds to the knowledge of healthcare disparities that exist for gay men. Few studies address the barriers to both mental and medical health care rural gay men face when attempting to access services. This study highlights the importance of establishing a welcoming and nonjudgmental environment to ensure rural gay, bisexual, and other MSM living in Oklahoma feel safe when seeking mental and medical health care. This study adds to the literature of LGBT health care disparities by highlighting the impact living in predominantly conservative environment can have on a person's mental and physical healthcare use. Individuals who

did not disclose their sexual orientation or same-sex behaviors to friends and family members were less likely to use mental or medical health care services. Counselors and doctors need to ensure that their policies and office environments are welcoming and accepting of all sexual orientations. Outreach organizations that engage in outreach to rural LGBT individuals need to be cognizant that not all LGBT individuals may have openly disclosed their non-heteronormative orientations. In order to access and help these hard to reach populations, it is imperative that these outreach organizations and providers that seek to provide care do not inadvertently force disclosure of a client's orientation. The current study demonstrates the need to consider the current sociopolitical climate specific to areas where individuals live when creating interventions and outreach programs to lessen the disparity that exists in health among all LGBT individuals.

## REFERENCES

- Alvy, L. M., McKirnan, D., Du Bois, S. N., Jones, K., Ritchie, N., & Fingerhut, D. (2011). Health care disparities and behavioral health among men who have sex with men. *Journal of Gay & Lesbian Social Services: The Quarterly Journal of Community & Clinical Practice*, 23(4), 507-522.  
doi:10.1023/B:JOLA.00000007009.83600.ae
- Andersen, R. M. (1995). Revisiting the Behavioral Model and Access to Medical Care: Does it Matter? *Journal of Health and Social Behavior*, 36(1), 1-10. doi: 10.2307/2137284
- Andersen, R. M. (2008). National Health Surveys and the Behavioral Model of Health Services Use. *Medical Care*, 46(7), 647-653. doi: 10.2307/40221718
- Andersen, R. M., & Anderson, O. W. (1967). *A Decade of Health Services*. Chicago, IL: University of Chicago Press.
- Barton, B. C. (2012). *Pray the Gay Away : The Extraordinary Lives of Bible Belt Gays*. New York, NY, USA: New York University Press (NYU Press).
- Beehler, G. P. (2001). Confronting the culture of medicine: Gay men's experiences with primary care physicians. *Journal of Gay and Lesbian Medical Association*, 5(4), 135-141.

- Berg, M. B., Mimiaga, M. J., & Safren, S. A. (2004). Mental Health Concerns of HIV-Infected Gay and Bisexual Men Seeking Mental Health Services: An Observational Study. *AIDS Patient Care and STDs*, 18(11), 635-643. doi: 10.1080/00918360801982215
- Bing, E. G., Burnam, M., Longshore, D., & et al. (2001). PSychiatric disorders and drug use among human immunodeficiency virus–infected adults in the united states. *Archives of General Psychiatry*, 58(8), 721-728. doi: 10.1001/archpsyc.58.8.721
- Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996). Psychometric properties of the PTSD Checklist (PCL). *Behaviour Research and Therapy*, 34(8), 669-673. doi: [http://dx.doi.org/10.1016/0005-7967\(96\)00033-2](http://dx.doi.org/10.1016/0005-7967(96)00033-2)
- Blanchard, R., & Bogaert, A. F. (1996). Homosexuality in men and number of older brothers. *The American Journal of Psychiatry*, 153(1), 27-31.
- Blanchard, R., Zucker, K. J., Bradley, S. J., & Hume, C. S. (1995). Birth order and sibling sex ratio in homosexual male adolescents and probably prehomosexual feminine boys. *Dev Psychol*, 31(1), 22-30.
- Blosnich, J. R., Hanmer, J., Yu, L., Matthews, D. D., & Kavalieratos, D. (2016). Health Care Use, Health Behaviors, and Medical Conditions Among Individuals in Same-Sex and Opposite-Sex Partnerships: A Cross-Sectional Observational Analysis of the Medical Expenditures Panel Survey (MEPS), 2003–2011. *Medical Care*, 54(6), 547-554. doi:10.1097/mlr.0000000000000529

- Boehmer, U. (2002). Twenty Years of Public Health Research: Inclusion of Lesbian, Gay, Bisexual, and Transgender Populations. *American Journal of Public Health*, 92(7), 1125-1130.
- Bowen, A. (2005). Internet Sexuality Research with Rural Men Who Have Sex with Men: Can We Recruit and Retain Them? *The Journal of Sex Research*, 42(4), 317-323. doi: 10.2307/3813784
- Burns, M. N., Ryan, D. T., Garofalo, R., Newcomb, M. E., & Mustanski, B. (2014). Mental health disorders in young urban sexual minority men. *Journal of Adolescent Health*. doi: <http://dx.doi.org/10.1016/j.jadohealth.2014.07.018>
- Butler, S. S. (2004). Gay, Lesbian, Bisexual, and Transgender (GLBT) Elders: The Challenges and Resilience of this Marginalized Group. *Journal of Human Behavior in the Social Environment*, 9(4), 25-44. doi: [http://dx.doi.org/10.1300/J137v09n04\\_02](http://dx.doi.org/10.1300/J137v09n04_02)
- Cahill, S. (2002). Long term care issues affecting gay, lesbian, bisexual and transgender elders. *Geriatric Care Management Journal*, 12(3), 4-8.
- Cass, V. C. (1979). Homosexual identity formation: a theoretical model. *J Homosex*, 4(3), 219-235. doi: 10.1300/J082v04n03\_01
- Centers for Disease Control and Prevention. (2012). *Estimated HIV incidence in the United States, 2007–2010. HIV Surveillance Supplemental Report 2012*, 17(4). <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/#supplemental>. Published December 2012. . Retrieved February, 2015

- Centers for Disease Control and Prevention. (2011). *Clinical and Behavioral Characteristics of Adults Receiving Medical Care for HIV Infection — Medical Monitoring Project, United States, 2007*.  
<http://www.cdc.gov/mmwr/pdf/ss/ss6011.pdf> Retrieved August, 2016.
- Cochran, S. D. (2001). Emerging issues in research on lesbians' and gay men's mental health: Does sexual orientation really matter? *American Psychologist*, 56(11), 931-947. doi: <http://dx.doi.org/10.1037/0003-066X.56.11.931>
- Curran, J. M., Gibson, L., & Hubach, R. D. (2015). Multidimensional Assessment of Sexual Orientation and the Fraternal Birth Order Effect. *Psychology of Sexual Orientation and Gender Diversity*, 2(2).
- Daniel, H., & Butkus, R. (2015). Lesbian, Gay, Bisexual, and Transgender Health Disparities: Executive Summary of a Policy Position Paper From the American College of PhysiciansLGBT Health Disparities. *Annals of Internal Medicine*, N/A(N/A), N/A-N/A. doi: 10.7326/M14-2482
- Datti, P. A., & Conyers, L. M. (2010). Application of the behavioral model of service utilization to predicting factors associated with vocational rehabilitation use among a sample of Latino men with HIV/AIDS in New York State. *Journal of Vocational Rehabilitation*, 33(1), 15-25. doi: 10.3233/JVR-2010-0512
- Diamond, L. M. (1998). Development of sexual orientation among adolescent and young adult women. *Dev Psychol*, 34(5), 1085-1095.
- Diamond, L. M. (2000). Diamond, L. M. (2000). Sexual identity, attractions, and behavior among young sexual-minority women over a 2-year period. *Developmental psychology*, 36(2), 241.

Driskell, J. R., O'Cleirigh, C., Covahey, C., Ripton, J., Mayer, K., Perry, D. H., . . .

Safren, S. (2010). Building program acceptability: Perceptions of gay and bisexual men on peer or prevention case manager relationships in secondary HIV prevention counseling. *Journal of Gay & Lesbian Social Services: The Quarterly Journal of Community & Clinical Practice*, 22(3), 269-286. doi: <http://dx.doi.org/10.1080/10538720903426388>

Eaton, N. R. (2014). Transdiagnostic psychopathology factors and sexual minority mental health: Evidence of disparities and associations with minority stressors. *Psychology of Sexual Orientation and Gender Diversity*, 1(3), 244-254. doi: <http://dx.doi.org/10.1037/sgd0000048>

Eaton, W. W., Smith, C., Ybarra, M., Muntaner, C., & Tien, A. (2004). Center for Epidemiologic Studies Depression Scale: review and revision (CESD and CESD-R). In M. Maruish (Ed.), *The Use of Psychological Testing for Treatment Planning and Outcomes Assessment* (3rd ed., pp. 363-377). Mahwah, NJ: Lawrence Erlbaum.

Elhai, J. D., Grubaugh, A. L., Richardson, J. D., Egede, L. E., & Creamer, M. (2008). Outpatient medical and mental healthcare utilization models among military veterans: Results from the 2001 National Survey of Veterans. *Journal of Psychiatric Research*, 42(10), 858-867. doi: <http://dx.doi.org/10.1016/j.jpsychires.2007.09.006>



- Eliason, M. J., & Schope, R. (2001). Does "don't ask don't tell" apply to health care? Lesbian, gay, and bisexual people's disclosure to health care providers. *Journal of the Gay & Lesbian Medical Assn*, 5(4), 125-134.  
doi:<http://dx.doi.org/10.1023/A:1014257910462>
- Fasoli, D. R., Glickman, M. E., & Eisen, S. V. (2010). Predisposing characteristics, enabling resources and need as predictors of utilization and clinical outcomes for veterans receiving mental health services. *Medical Care*, 48(4), 288-295. doi: 10.1176/appi.ps.54.6.871
- Fetzer Institute. (2003). *Multidimensional Measurement of Religiousness/Spirituality for Use in Health Research: A Report of the Fetzer Institute/National Institute on Aging Working Group*. Kalamzoo, MI: Fetzer Institute.
- Fiscella, K., Franks, P., Doescher, M. P., & Saver, B. G. (2002). Disparities in Health Care by Race, Ethnicity, and Language Among the Insured: Findings From a National Sample. *Medical Care*, 40(1), 52-59. Retrieved from [http://journals.lww.com/lww-medicalcare/Fulltext/2002/01000/Disparities\\_in\\_Health\\_Care\\_by\\_Race,\\_Ethnicity,\\_and.7.aspx](http://journals.lww.com/lww-medicalcare/Fulltext/2002/01000/Disparities_in_Health_Care_by_Race,_Ethnicity,_and.7.aspx)
- Fisher, C. M., Irwin, J. A., & Coleman, J. D. (2013). LGBT Health in the Midlands: A Rural/Urban Comparison of Basic Health Indicators. *J Homosex*, 61(8), 1062-1090. doi: 10.1080/00918369.2014.872487

- Gevonden, M. J., Selten, J. P., Myin-Germeys, I., de Graaf, R., ten Have, M., van Dorsselaer, S., . . . Veling, W. (2014). Sexual minority status and psychotic symptoms: Findings from the Netherlands Mental Health Survey and Incidence Studies (NEMESIS). *Psychological Medicine*, 44(2), 421-433. doi: <http://dx.doi.org/10.1017/S0033291713000718>
- Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Golub, S. A., & Gamarel, K. E. (2013). The impact of anticipated HIV stigma on delays in HIV testing behaviors: Findings from a community-based sample of men who have sex with men and transgender women in New York City. *AIDS Patient Care and STDs*, 27(11), 621-627.
- Green, L. S., Kreuter, M. K., Deeds, s. G., & Partridge, K. B. (1980). *Health Education Planning: A Diagnostic Approach*. Palo Alto, CA: Mayfield.
- Hadley, J. (2003). Sicker and Poorer—The Consequences of Being Uninsured: A Review of the Research on the Relationship between Health Insurance, Medical Care Use, Health, Work, and Income. *Medical Care Research and Review*, 60(2 suppl), 3S-75S. doi:10.1177/1077558703254101
- Halkitis, P. N., Siconolfi, D., Fumerton, M., & Barlup, K. (2008). Facilitators of Barebacking Among Emergent Adult Gay and Bisexual Men: Implications for HIV Prevention. *Journal of LGBT Health Research*, 4(1), 11-26. doi: 10.1080/15574090802412580

- Hasin, D. S., Goodwin, R. D., Stinson, F. S., & Grant, B. F. (2005). Epidemiology of major depressive disorder: Results from the national epidemiologic survey on alcoholism and related conditions. *Archives of General Psychiatry*, 62(10), 1097-1106. doi: 10.1001/archpsyc.62.10.1097
- Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Erickson, S. J. (2008). Minority stress predictors of HIV risk behavior, substance use, and depressive symptoms: Results from a prospective study of bereaved gay men. *Health Psychology*, 27(4), 455-462. doi: <http://dx.doi.org/10.1037/0278-6133.27.4.455>
- Hatzenbuehler, M. L., O'Cleirigh, C., Grasso, C., Mayer, K., Safren, S., & Bradford, J. (2012). Effect of same-sex marriage laws on health care use and expenditures in sexual minority men: A quasi-natural experiment. *American Journal of Public Health*, 102(2), 285-291. doi:<http://dx.doi.org/10.2105/AJPH.2011.300382>
- Hatzenbuehler, M. L., O'Cleirigh, C., Mayer, K. H., Mimiaga, M. J., & Safren, S. A. (2011). Prospective associations between HIV-related stigma, transmission risk behaviors, and adverse mental health outcomes in men who have sex with men. *Annals of Behavioral Medicine*, 42(2), 227-234. doi: <http://dx.doi.org/10.1007/s12160-011-9275-z>
- Herbenick, D., Reece, M., Schick, V., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2010). An event-level analysis of the sexual characteristics and composition among adults ages 18 to 59: Results from a national probability sample in the United States. *Journal of Sexual Medicine*, 7(Suppl 5), 346-361. doi: <http://dx.doi.org/10.1111/j.1743-6109.2010.02020.x>

- Hollander, D. (2013). Men who do not disclose same-sex behavior may miss chances to get recommended care. *Perspectives on Sexual and Reproductive Health*, 45(2), 110-111. doi: [http://dx.doi.org/10.1363/4511013\\_2](http://dx.doi.org/10.1363/4511013_2)
- Holloway, I. W., Padilla, M. B., Willner, L., & Guilamo-Ramos, V. (2014). Effects of minority stress processes on the mental health of latino men who have sex with men and women: A qualitative study. *Arch Sex Behav*. doi: <http://dx.doi.org/10.1007/s10508-014-0424-x>
- Horowitz, J. L., & Newcomb, M. D. (2001). A multidimensional approach to homosexual identity. *J Homosex*, 42(2), 1-19.
- Hubach, R. D., DiStefano, A. S., & Wood, M. M. (2012). Understanding the influence of loneliness on HIV risk behavior in young men who have sex with men. *Journal of Gay & Lesbian Social Services: The Quarterly Journal of Community & Clinical Practice*, 24(4), 371-395. doi: 10.1177/0017896912446739. <http://dx.doi.org/10.1080/10538720.2012.721676>
- Hubach, R. D., Dodge, B., Li, M. J., Schick, V., Herbenick, D., Ramos, W. D., . . . Reece, M. (2015). Loneliness, HIV-Related Stigma, and Condom Use Among a Predominantly Rural Sample of HIV-Positive Men Who Have Sex With Men (MSM). *AIDS Education and Prevention*, 27(1), 72-83. doi: 10.1521/aeap.2015.27.1.72
- Hubach, R. D., Dodge, B., Schick, V., Ramos, W. D., Herbenick, D., Li, M. J., . . . Reece, M. (2015). Experiences of HIV-positive gay, bisexual and other men who have sex with men residing in relatively rural areas. *Culture, Health & Sexuality*, 1-15. doi: 10.1080/13691058.2014.994231

- Hulka, B. S., & Wheat, J. R. (1985). Patterns of Utilization: The Patient Perspective. *Medical Care*, 23(5), 438-460. doi: 10.2307/3764983
- Kano, M., Silva-Bañuelos, A. R., Sturm, R., & Willging, C. E. (2016). Stakeholders' Recommendations to Improve Patient-centered “LGBTQ” Primary Care in Rural and Multicultural Practices. *The Journal of the American Board of Family Medicine*, 29(1), 156-160. doi:10.3122/jabfm.2016.01.150205
- Kelly, B. C., Bimbi, D. S., Izienicki, H., & Parsons, J. T. (2009). Stress and coping among HIV-positive barebackers. *AIDS Behav*, 13(4), 792-797. doi: <http://dx.doi.org/10.1007/s10461-009-9586-2>
- Kennedy, M. (2010). Rural men, sexual identity and community. *J Homosex*, 57(8), 1051-1091. doi: <http://dx.doi.org/10.1080/00918369.2010.507421>
- Kinsey, A. C. (1941). Homosexuality: Criteria for a hormonal explanation of the homosexual. *Journal of Clinical Endocrinology*, 1, 424-428.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. Bloomington, IN: W. B. Saunders Company.
- Klein, F., Sepekoff, B., & Wolf, T. J. (1985). Sexual orientation: A multi-variable dynamic process. *J Homosex*, 11(1-2), 35-49.
- Klitzman, R. L., Exner, T., Correale, J., Kirshenbaum, S. B., Remien, R., Ehrhardt, A. A., . . . Charlebois, E. (2007). It's not just what you say: Relationship of HIV disclosure and risk reduction among MSM in the post-HAART era. *AIDS Care*, 19(6), 749-756. doi: <http://dx.doi.org/10.1080/09540120600983971>

- Klitzman, R. L., & Greenberg, J. D. (2002). Patterns of communication between gay and lesbian patients and their health care providers. *J Homosex*, 42(4), 65-75. doi: [http://dx.doi.org/10.1300/J082v42n04\\_04](http://dx.doi.org/10.1300/J082v42n04_04)
- Leedy, G., & Connolly, C. (2008). Out in the cowoby state. *Journal of Gay & Lesbian Social Services*, 19(1), 17-34.
- Lehavot, K., & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *J Consult Clin Psychol*, 79(2), 159-170. doi: <http://dx.doi.org/10.1037/a0022839>
- Lelutiu-Weinberger, C., Pachankis, J. E., Golub, S. A., Walker, J. N. J., Bamonte, A. J., & Parsons, J. T. (2013). Age cohort differences in the effects of gay-related stigma, anxiety and identification with the gay community on sexual risk and substance use. *AIDS Behav*, 17(1), 340-349. doi: 10.1007/s10461-006-9137-z
- Liang, B., Taylor, C., Williams, L. M., Tracy, A. J., Jordan, J. V., & Baker-Miller, J. (1998). *Relational Health Indices: An Exploratory Study (Work In Progress No. 293)*. Wellesley, MA: Stone Center Working Paper Series.
- Link, B., & Haztenbuehler, M. (2016). Stigma as an unrecognized determinant of population health: Research and policy implications. *Journal of Health Politics, Policy and Law*, 41(4), 653-673. doi: 10.1215/03616878-3620869
- Liu, R. T., & Mustanski, B. (2012). Suicidal ideation and self-harm in lesbian, gay, bisexual, and transgender youth. *American Journal of Preventive Medicine*, 42(3), 221-228. doi: <http://dx.doi.org/10.1016/j.amepre.2011.10.023>
- Lu, S. (2015). Preventing HIV, one pill at a time. *APA Monitor*, 46(1), 40.

- Maisto, S. A., Carey, M. P., Carey, K. B., Gordon, C. M., & Gleason, J. R. (2000). Use of the AUDIT and the DAST-10 to identify alcohol and drug use disorders among adults with a severe and persistent mental illness. *Psychological Assessment*, 12(2), 186-192. doi: 10.1037/1040-3590.12.2.186
- Mathy, R. M., Schillace, M., Coleman, S. M., & Berquist, B. E. (2002). Methodological Rigor with Internet Samples: New Ways to Reach Underrepresented Populations. *Cyberpsychology & Behavior*, 5(3), 253-266. doi: 10.1089/109493102760147259
- McDavitt, B., Iverson, E., Kubicek, K., Weiss, G., Wong, C. F., & Kipke, M. D. (2008). Strategies used by gay and bisexual young men to cope with heterosexism. *Journal of Gay & Lesbian Social Services: Issues in Practice, Policy & Research*, 20(4), 354-380. doi: <http://dx.doi.org/10.1080/10538720802310741>
- Meidlinger, P. C., & Hope, D. A. (2014). Differentiating disclosure and concealment in measurement of outness for sexual minorities: The Nebraska Outness Scale. *Psychology of Sexual Orientation and Gender Diversity*, 1(4), 489-497. doi: 10.1037/sgd0000080
- METLIFE. (2010). Out and aging: The MetLife study of lesbian and gay baby boomers. *Journal of GLBT Family Studies*, 6(1), 40-57.
- Meyer, H. (2011). Safe space? The need for LGBT cultural competency in aging services. *Public Policy & Aging Report*, 21(3), 24-27.
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, 36(1), 38-56. doi: <http://dx.doi.org/10.2307/2137286>

- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychol Bull*, 129(5), 674-697. doi: 10.1037/0033-2909.129.5.674
- Meyer, I. H., Dietrich, J., & Schwartz, S. (2008). Lifetime prevalence of mental disorders and suicide attempts in diverse lesbian, gay, and bisexual populations. *American Journal of Public Health*, 98(6), 1004-1006. doi: <http://dx.doi.org/10.2105/AJPH.2006.096826>
- Mosack, K. E., Brouwer, A. M., & Petroll, A. E. (2013). Sexual identity, identity disclosure, and health care experiences: Is there evidence for differential homophobia in primary care practice? *Women's Health Issues*, 23(6), e341-e346. doi:<http://dx.doi.org/10.1016/j.whi.2013.07.004>
- Mustanski, B., Garofalo, R., & Emerson, E. M. (2010). Mental health disorders, psychological distress, and suicidality in a diverse sample of lesbian, gay, bisexual, and transgender youths. *American Journal of Public Health*, 100(12), 2426-2432. doi: <http://dx.doi.org/10.2105/AJPH.2009.178319>
- Mustanski, B., & Liu, R. T. (2013). A longitudinal study of predictors of suicide attempts among lesbian, gay, bisexual, and transgender youth. *Arch Sex Behav*, 42(3), 437-448. doi: <http://dx.doi.org/10.1007/s10508-012-0013-9>
- National Center for PTSD. (2014). Using the PTSD Checklist Retrieved June 5, 2015, from [www.ptsd.va.gov/professional/pages/assessments/assessment-pdf/PCL-handout.pdf](http://www.ptsd.va.gov/professional/pages/assessments/assessment-pdf/PCL-handout.pdf)



- Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review*, 30(8), 1019-1029. doi: <http://dx.doi.org/10.1016/j.cpr.2010.07.003>
- O'Cleirigh, C., Skeer, M., Mayer, K. H., & Safren, S. A. (2009). Functional impairment and health care utilization among HIV-infected men who have sex with men: The relationship with depression and post-traumatic stress. *Journal of Behavioral Medicine*, 32(5), 466-477. doi: <http://dx.doi.org/10.1007/s10865-009-9217-4>
- Obergefell v. Hodges, 135 S.Ct. 2071 (2015).
- Oldenburg, C. E., Perez-Brumer, A. G., Hatzenbuehler, M. L., Krakower, D., Novak, D. S., Mimiaga, M. J., & Mayer, K. H. (2015). State-level structural stigma and HIV prevention in a national online sample of HIV-uninfected men who have sex with men in the United States. *AIDS*, 29(7), 837-845. doi: 10.1097/QAD.0000000000000622
- Oswald, R. F., & Culton, L. S. (2003). Under the rainbow: Rural gay life and its relevance for family providers. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 52(1), 72-81. doi: <http://dx.doi.org/10.1111/j.1741-3729.2003.00072.x>
- Oswald, R. F., & Masciadrelli, B. P. (2008). Generative ritual among nonmetropolitan lesbians and gay men: Promoting social inclusion. *Journal of Marriage and Family*, 70(4), 1060-1073. doi: <http://dx.doi.org/10.1111/j.1741-3737.2008.00546.x>

- Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychol Bull*, 133(2), 328-345. doi: <http://dx.doi.org/10.1037/0033-2909.133.2.328>
- Pachankis, J. E., & Goldfried, M. R. (2010). Expressive writing for gay-related stress: Psychosocial benefits and mechanisms underlying improvement. *J Consult Clin Psychol*, 78(1), 98-110. doi: 10.1037/a0017580
- Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *J Consult Clin Psychol*, 76(2), 306-317. doi: <http://dx.doi.org/10.1037/0022-006X.76.2.306>
- Pargament, K., Feuille, M., & Burdzy, D. (2011). The Brief RCOPE: Current psychometric status of a short measure of religious coping. *Religions*, 2, 51-76. doi: 10.3390/rel2010051
- Peduzzi, P., Concato, J., Kemper, E., Holford, T. R., & Feinstein, A. R. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology*, 49(12), 1373-1379. doi:[http://dx.doi.org/10.1016/S0895-4356\(96\)00236-3](http://dx.doi.org/10.1016/S0895-4356(96)00236-3)
- Pickett, J. (2010). Addressing gay men's health: The script needs a rewrite. *Virtual Mentor*, 12(8), 668-672.
- Politi, M. C., Clark, M. A., Armstrong, G., McGarry, K. A., & Sciamanna, C. N. (2009). Patient-provider communication about sexual health among unmarried middle-aged and older women. *Journal of General Internal Medicine*, 24(4), 511-516. doi: <http://dx.doi.org/10.1007/s11606-009-0930-z>

- Portes, A., Kyle, D., & Eaton, W. W. (1992). Mental Illness and Help-seeking Behavior Among Mariel Cuban and Haitian Refugees in South Florida. *Journal of Health and Social Behavior*, 33(4), 283-298. doi: 10.2307/2137309
- Preston, D. B., D'Augelli, A. R., Kassab, C. D., Cain, R. E., Schulze, F. W., & Starks, M. T. (2004). The influence of stigma on the sexual risk behavior of rural men who have sex with men. *AIDS Education and Prevention*, 16(4), 291-303. doi: <http://dx.doi.org/10.1521/aeap.16.4.291.40401>
- Preston, D. B., D'Augelli, A. R., Kassab, C. D., & Starks, M. T. (2007). The relationship of stigma to the sexual risk behavior of rural men who have sex with men. *AIDS Education and Prevention*, 19(3), 218-230. doi: <http://dx.doi.org/10.1521/aeap.2007.19.3.218>
- Protecting a Counselor's Religious Liberty Act, TN Stat. Ann. Code §§ SB1556/HB1840. Retrieved on August 10, 2016 from <http://i2.cdn.turner.com/cnn/2016/images/04/27/tn.sb.1556.language.pdf>.
- Reece, M., Herbenick, D., Schick, V., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2010). Background and considerations on the National Survey of Sexual Health and Behavior (NSSHB) from the investigators. *Journal of Sexual Medicine*, 7(Suppl 5), 243-245. doi: <http://dx.doi.org/10.1111/j.1743-6109.2010.02038.x>
- Reif, S., Whetten, K., Wilson, L., & Gong, W. (2011). HIV/AIDS Epidemic in the South Reaches Crisis Proportions. <http://globalhealth.duke.edu/news/2011/ResearchReportFinal3-12.pdf> Accessed February 2015.

- Reif, S., Wilson, E., & McAllaster, C. (2014). Southern HIV/AIDS Strategy Initiative: HIV Infrastructure Study.
- Rowan, N. L., Giunta, N., Grudowski, E. S., & Anderson, K. A. (2013). Aging well and gay in rural America: A case study. *Journal of Gerontological Social Work*, 56(3), 185-200. doi: <http://dx.doi.org/10.1080/01634372.2012.754813>
- Safran, M. A., Hoover, K. W., Tao, G., & Butler, M. O. (2013). Sexual behaviour and desire to discuss mental health as reported by HIV-infected men who have sex with men. *International Journal of STD & AIDS*, 24(2), 93-99.
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption: II. *Addiction*, 88(6), 791-804. doi: <http://dx.doi.org/10.1111/j.1360-0443.1993.tb02093.x>
- Savin-Williams, R. C., & Vrangalova, Z. (2013). Mostly heterosexual as a distinct sexual orientation group: A systematic review of the empirical evidence. *Developmental Review*, 33(1), 58-88. doi: 10.1016/j.dr.2013.01.001
- Schrimshaw, E. W., Siegel, K., Downing, M. J., & Parsons, J. T. (2013). Disclosure and concealment of sexual orientation and the mental health of non-gay-identified, behaviorally bisexual men. *J Consult Clin Psychol*, 81(1), 141-153. doi: 10.1037/a0031272
- Serovich, J. M., Grafsky, E. L., & Reed, S. (2010). Comparing regret of disclosing HIV versus sexual orientation information by MSM. *AIDS Care*, 22(9), 1052-1059. doi: <http://dx.doi.org/10.1080/09540120903511032>

- Shankle, M. D., Maxwell, C. A., Katzman, E. S., & Landers, S. (2003). An invisible population: Older lesbian, gay, bisexual, and transgender individuals. *Clinical Research and Regulatory Affairs*, 20(2), 159-182.
- Sherman, M. D., Kauth, M. R., Shipherd, J. C., & Street, R. L., Jr. (2014). Communication between VA providers and sexual and gender minority veterans: A pilot study. *Psychological Services*, 11(2), 235-242. doi: <http://dx.doi.org/10.1037/a0035840>
- Shernoff, M. (2005). Condomless Sex: Considerations for Psychotherapy with Individual Gay Men and Male Couples Having Unsafe Sex. *Journal of Gay & Lesbian Psychotherapy*, 9(3-4), 149-169. doi: 10.1300/J236v09n03\_09
- Shilo, G., & Mor, Z. (2014). The impact of minority stressors on the mental and physical health of lesbian, gay, and bisexual youths and young adults. *Health & Social Work*, 39(3), 161-171. doi: <http://dx.doi.org/10.1093/hsw/hlu023>
- Siegel, K., Schrimshaw, E. W., Lekas, H.-M., & Parsons, J. T. (2008). Sexual behaviors of non-gay identified non-disclosing men who have sex with men and women. *Arch Sex Behav*, 37(5), 720-735. doi: <http://dx.doi.org/10.1007/s10508-008-9357-6>
- Simpson, T. L., Balsam, K. F., Cochran, B. N., Lehavot, K., & Gold, S. D. (2013). Veterans administration health care utilization among sexual minority veterans. *Psychological Services*, 10(2), 223-232. doi: <http://dx.doi.org/10.1037/a0031281>
- Smit, P. J., Brady, M., Carter, M., Fernandes, R., Lamore, L., Meulbroek, M., . . . Thompson, M. (2012). HIV-related stigma within communities of gay men: A literature review. *AIDS Care*, 24(4), 405-412.

- Starks, T. J., Payton, G., Golub, S. A., Weinberger, C. L., & Parsons, J. T. (2014). Contextualizing condom use: Intimacy Interference, stigma, and unprotected sex. *Journal of Health Psychology, 19*(6), 711-720. doi: <http://dx.doi.org/10.1177/1359105313478643>
- Stein, G. L., & Bonuck, K. A. (2001). Physician-patient relationships among the lesbian and gay community. *Journal of the Gay & Lesbian Medical Assn, 5*(3), 87-93. doi: <http://dx.doi.org/10.1023/A:1011648707507>
- Tanner, J. L., Cockerham, W. C., & Spaeth, J. L. (1983). Predicting Physician Utilization. *Medical Care, 21*(3), 360-369. doi: 10.2307/3764881
- Traeger, L., O'Cleirigh, C., Skeer, M. R., Mayer, K. H., & Safren, S. A. (2012). Risk factors for missed HIV primary care visits among men who have sex with men. *Journal of Behavioral Medicine, 35*(5), 548-556. doi: <http://dx.doi.org/10.1007/s10865-011-9383-z>
- Underhill, K., Morrow, K. M., Operario, D., & Mayer, K. H. (2014). Could FDA approval of pre-exposure prophylaxis make a difference? A qualitative study of prep acceptability and FDA perceptions among men who have sex with men. *AIDS Behav, 18*(2), 241-249. doi: <http://dx.doi.org/10.1007/s10461-013-0498-9>
- Underhill, K., Operario, D., Skeer, M. R., Mimiaga, M. J., & Mayer, K. H. (2010). Packaging PrEP to prevent HIV: An integrated framework to plan for pre-exposure prophylaxis implementation in clinical practice. *JAIDS Journal of Acquired Immune Deficiency Syndromes, 55*(1), 8-13. doi: <http://dx.doi.org/10.1097/QAI.0b013e3181e8efe4>

- Underwood, L. G., & Teresi, J. A. (2002). The daily spiritual experience scale: development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*, 24(1), 22-33. doi:10.1207/s15324796abm2401\_04
- Vrangalova, Z., & Savin-Williams, R. C. (2010). Correlates of same-sex sexuality in heterosexually identified young adults. *Journal of Sex Research*, 47(1), 92-102. doi: 10.1080/00224490902954307
- Vrangalova, Z., & Savin-Williams, R. C. (2012). Mostly heterosexual and mostly gay/lesbian: evidence for new sexual orientation identities. *Arch Sex Behav*, 41(1), 85-101. doi: 10.1007/s10508-012-9921-y
- Waldorf, B. (2007). Measuring Rurality. *In Context*, 8(1), 5-8.
- Waldorf, B., & Kim, A. (2015). *Defining Rurality in the US: Alternatives to the ERS Classifications*. Paper presented at the Workshop on Rationalizing Rural Area Classifications, National Academy of Sciences, Committee on National Statistics, Washington, DC, April 16-17, 2015.
- Walls, N. E., Wisneski, H., & Kane, S. (2013). School climate, individual support, or both? Gay-straight alliances and the mental health of sexual minority youth. *School Social Work Journal*, 37(2), 88-112. doi: 10.1300.J041v18n01\_03
- Whitlock, R. U. (2013). *Landscapes of Education : Queer South Rising : Voices of a Contested Place*. Charlotte, NC, USA: Information Age Publishing.
- Whitehead, J., Shaver, J., & Stephenson, R. (2016). Outness, Stigma, and Primary Health Care Utilization among Rural LGBT Populations. *PLoS ONE*, 11(1), e0146139. doi:10.1371/journal.pone.0146139

- Willging, C. E., Israel, T., Ley, D., Trott, E. M., DeMaria, C., Joplin, A., & Smiley, V. (2016). Coaching mental health peer advocates for rural LGBTQ people. *Journal of Gay & Lesbian Mental Health*, 20(3), 214-236. doi:10.1080/19359705.2016.1166469
- Willging, C. E., Salvador, M., & Kano, M. (2006). Pragmatic Help Seeking: How Sexual and Gender Minority Groups Access Mental Health Care in a Rural State. *Psychiatric Services*, 57(6), 871-874. doi:10.1176/ps.2006.57.6.871
- Worthington, R. L., & Reynolds, A. L. (2009). Within-group differences in sexual orientation and identity. *Journal of Counseling Psychology*, 56(1), 44-55. doi:10.1037/a0013498
- Yannessa, J. F., Reece, M., & Basta, T. B. (2008). HIV provider perspectives: The impact of stigma on substance abusers living with HIV in a rural area of the United States. *AIDS Patient Care & STDs*, 22(8), 669-675. doi: 10.1089/apc.2007.0151
- Yudko, E., Lozhkina, O., & Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *Journal of Substance Abuse Treatment*, 32(2), 189-198. doi: <http://dx.doi.org/10.1016/j.jsat.2006.08.002>



## **APPENDIX A**

### **EXTENDED LITERATURE REVIEW**

The American College of Physicians has recently called for research to understand the potential causes of LGBT health disparities that exist when compared to their heterosexual counterparts (Daniel & Butkus, 2015). Policies, procedures, and discriminatory practices can create an atmosphere of heteronormativity, and thus a more inhospitable climate for nonheterosexual individuals seeking mental and physical health care (Butler, 2004; Cahill, 2002; Shankle, Maxwell, Katzman, & Landers, 2003). The stigma of society on nonheterosexual men, regardless of HIV serostatus, leads to poorer mental and physical health (Liu & Mustanski, 2012; I. H. Meyer, 2003; I. H. Meyer, Dietrich, & Schwartz, 2008; Mustanski & Liu, 2013). Unfortunately, less than one percent of existing research focuses on the disparities of LGBT individuals' mental and physical health (Boehmer, 2002).

Most studies addressing minority stress and disparate outcomes among nonheterosexual individuals are conducted on urban samples; however, a few studies also look at the impact that stigma and minority stress can have on rural samples as well (Fisher, Irwin, & Coleman, 2013).

Information is needed to better understand the barriers that interfere with rural gay, bisexual, and other men who have sex with men (MSM) and their usage of mental and physical health care systems. In this extended literature review, research is presented

discussing the various aspects of stigma facing gay, bisexual and other men who have sex with men.

### **Stigma about Sexual Orientation and HIV Serostatus**

Research has demonstrated that nonheterosexual individuals experience a greater occurrence of mental health problems than their heterosexual counterparts including mood disorders, substance use, and suicidal ideation and attempts (e.g., Cochran, 2001; Newcomb & Mustanski, 2010). In the seminal work regarding this phenomenon, Meyer (1995, 2003) postulates the mental health disparity can be explained by minority stress. Minority stress is "...psychosocial stress derived from minority status. This concept is based on the premise that gay people, like members of other minority groups, are subjected to chronic stress related to their stigmatization" (Meyer, 1995, p. 38). Numerous researchers demonstrate the increased mood, anxiety, and substance use disorders that nonheterosexual individuals suffer based on minority stress as well as the mental health disparities that exist among nonheterosexual individuals (e.g., Eaton, 2014; Gevonden et al., 2014; Hatzenbuehler et al., 2008; Holloway et al., 2014; Lehavot & Simoni, 2011; Shilo & Mor, 2014).

Embedded within the nonheterosexual male population are nonheterosexual men who are living with HIV. This population of men not only experience stigma due to their sexual orientation, but also due to their HIV-positive serostatus as well (Hubach, Dodge, Li, et al., 2015). Hubach and colleagues (2015) observed participants feeling more isolated and separated from other non-heterosexual individuals. This further division of the nonheterosexual community based on HIV-positive serostatus can compound the

effects of homophobia and societal pressures to conform to the heterosexual narrative (Kennedy, 2010; Preston et al., 2004) leading to poorer sexual, emotional, and social health (Smit et al., 2012) and increased loneliness and isolation (Hubach, DiStefano, & Wood, 2012).

While research shows that nonheterosexual men experience generalized anxiety, depression, and panic associated with the additional stress due to stigma (Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011; Lelutiu-Weinberger et al., 2013), those living with HIV also have higher rates of post-traumatic stress disorder (PTSD), major depressive disorder, and adjustment disorder when compared to the general public (Berg, Mimiaga, & Safren, 2004; Bing, Burnam, Longshore, & et al., 2001; Traeger, O’Cleirigh, Skeer, Mayer, & Safren, 2012). HIV treatment adherence is negatively impacted more by symptoms from PTSD and depression than from the progression and symptoms of HIV (O’Cleirigh, Skeer, Mayer, & Safren, 2009). Traeger and colleagues (2012) noted that nonheterosexual men living with HIV view themselves as less capable than nonheterosexual HIV-negative serostatus men in most facets of their lives. If these men are able to access mental health care to address their needs, their physical health and adherence to treatments could be improved.

However, the research on stigma and minority stress historically has been primarily conducted in the US Census areas of the Midwest and Northeast. The rural south in the US has the lowest survival rates of HIV compared to the national average of fatality rates in the US (Reif, Wilson, & McAllaster, 2014). Additionally, according to the CDC, 32% of new HIV infection cases were diagnosed in this area even though this area only represents 22% of the total US population (Reif, Whetten, Wilson, & Gong,

2011). For men who have sex with men, 72% of new infections are accounted for by condomless sex and 10% infection is due to either intravenous drug use or having condomless sex with someone who was infected via intravenous drug use (CDC, 2012). Yet, these men face stigma and shame for not only their HIV-positive serostatus, but their sexual orientation as well. This stigma serves to reduce their social status among other individuals solely due to the lack of conformity to society's script of heteronormativity (Goffman, 1963; I. H. Meyer, 2003) and the assumption that the individual has done something "wrong" since he has tested positive for HIV (Smit et al., 2012). With this disparity in HIV infection rates and fatality rates as well as societal views of nonheterosexual individuals in the southern US, a need for research to be conducted on barriers to mental and physical health care for rural nonheterosexual individuals exists, especially in the South. Research highlighting the reasons for lack of usage of the current health care system can help provide information on how to increase access to mental and physical health care for this population.

With an increase in HIV-risk related behaviors associated with stigma experienced by nonheterosexual men, mental health professionals must be involved in both HIV related care and HIV prevention strategies. Involvement by mental health professionals can help ensure treatment effectiveness and adherence by individuals who are living with HIV as well as empowering nonheterosexual clients to initiate conversations with healthcare providers about HIV prevention (Driskell et al., 2010; Lu, 2015; Underhill, Morrow, Operario, & Mayer, 2014; Underhill, Operario, Skeer, Mimiaga, & Mayer, 2010).

### **Disclosing Sexual Orientation Status and/or Behavior**

Compounded with the minority stress of being nonheterosexual is the stress associated with the decision to disclose a person's nonheterosexual orientation. Men who disclose they have sex with men to others often expect to be isolated from friends and family members, experience negative mental health outcomes, and possibly attempt suicide (Holloway et al., 2014). This process is known as "coming out." When a person self-discloses, or "comes out," this person becomes vulnerable to stigma and negative judgment of those individuals he/she chooses to disclose that information (Serovich, Grafsky, & Reed, 2010; Walls, Wisneski, & Kane, 2013).

Withholding sexual orientation status from a medical or mental health provider could prevent a client/patient from receiving specific services if the provider is unaware of his sexual orientation (Hollander, 2013). Thus for effective care to be given, a man might need to disclose his sexual orientation and/or behaviors with his mental and physical health care providers. Research has shown that gay men are more apt to disclose their sexual orientation to their healthcare provider if they perceive that provider to be gay friendly or nonheterosexual (Klitzman et al., 2007). While research demonstrates most clients/patients would like the conversation about sexual orientation be initiated by their provider, they also want to know a clear health related reason for the inquiry (Stein & Bonuck, 2001). Two-thirds of veterans in a recent study reported that their providers did not ask about sexual orientation, and 72% do not feel welcomed as LGBT veterans to the VA (Sherman, Kauth, Shipherd, & Street, 2014). With the aging population, the amount of Baby Boomers moving into retirement, and the need for increased medical care that comes with aging; over half of gay and lesbian Baby Boomers felt health care professionals would treat them inappropriately (METLIFE, 2010).

However, unique challenges are ever-present for individuals who choose to disclose sexual orientation to healthcare providers in rural areas, including if that provider is open to providing care and the knowledge of addressing the specific needs of a nonheterosexual individual (Fisher et al., 2013; Preston et al., 2007; Safran, Hoover, Tao, & Butler, 2013; Yanness, Reece, & Basta, 2008). Nonheterosexual orientations are not discussed within families or health care as they are in urban settings; and most rural nonheterosexual men have lower levels of self-acceptance, are out to fewer family members and friends; and are less connected to their communities than their urban counterparts (Fisher et al., 2013). This desire to not disclose to health care providers could be due to feared stigmatization by not only family members and friends, but healthcare providers as well (Driskell et al., 2010; Yanness et al., 2008). The Gay and Lesbian Medical Association reported 67% of health care providers knew someone who received less than optimal care, and 52% of their colleagues had either denied or provided less than optimal care based on the patients' disclosure or perception by the staff of the patients' sexual orientation (Stein & Bonuck, 2001).

### **Coping with Stigma**

Nonheterosexual men sometimes cope with the feared stigmatization of family members and friends by engaging in HIV-risk related behaviors, including condomless sex and drug use (Preston et al., 2007; Shernoff, 2005). Prior research has shown that engaging in unprotected anal intercourse (UAI) can temporarily decrease feelings of isolation and loneliness due to stigma (Halkitis, Siconolfi, Fumerton, & Barlup, 2008; Hatzenbuehler et al., 2011; Hubach et al., 2012). Loneliness has also been shown to decrease condom use in rural men who have sex with men that are also HIV positive

(Hubach, Dodge, Li, et al., 2015; Hubach, Dodge, Schick, et al., 2015). HIV related stigma can even discourage men who have sex with men from getting tested for HIV due to the stigma from their local community as a whole as well as the gay community if they are diagnosed as positive for HIV (Golub & Gamarel, 2013). Individuals have described using drugs to regulate emotions and avoid the feelings of loneliness and isolation (Kelly, Bimbi, Izienicki, & Parsons, 2009; McDavitt et al., 2008). Even when controlling for variables like age and substance use, anxiety due to stigma still impacted individuals to engage in condomless sex and drug use (Lelutiu-Weinberger et al., 2013). The added stigma that can isolate rural men and impact their physical and mental health can potentially interfere with their use of the health care system.

One fear of men who have sex with men and who have not disclosed this desire is the fear that they will be discovered. One study in 2008 demonstrated that behaviorally bisexual men in a committed relationship with a woman might only engage in sex with men when they can no longer abstain from it, and do so without wearing a condom or using some other form of protection (Siegel, Schrimshaw, Lekas, & Parsons, 2008). Fear of discovery is not the only reason a person chooses to not wear a condom. Another reason could be due to fear of rejection or reduction of intimacy as explained by rejection sensitivity theory. Rejection sensitivity theory posits individuals who experience stigma as a form of rejection and develop other coping skills to reduce rejection in the future (Pachankis, 2007; Pachankis et al., 2008). So if a person who has struggled to find a same-sex individual to have sex with also perceives that the person will reject them if they choose to use a condom, then they will make the choice to not use a condom as a strategy to avoid rejection (Starks, Payton, Golub, Weinberger, & Parsons, 2014).

## Behavioral Health Model

One way to understand who accesses health care and what barriers exist for others in accessing health care is through Andersen's Behavioral Health Model (BHM; Andersen, 1995, 2008; Andersen & Anderson, 1967). Proposed in the late 1960's (Andersen & Anderson, 1967), the Behavioral Health Model (BHM) was originally designed to help facilitate an understanding of why families used health care resources. The goal of the model was to help promote equitable access of health care to all families by understanding predispositions to use health care and what enables or impedes their use of health care services (Andersen, 1995). The model (See Figure 1) demonstrated that a family's *predisposed characteristics*, *enabling resources*, and *actual need* helped explain and predict health care usage (Andersen & Anderson, 1967).

Several recent studies have used Andersen's (1967) BHM to better understand utilization of health services by LGBT individuals (Andersen, 2008; Datti & Conyers, 2010; Simpson, Balsam, Cochran, Lehavot, & Gold, 2013). Using the BHM with sexual minority populations, providers can begin to understand what potential barriers exist that lead individuals to not access mental and physical health care services. This understanding can then aid providers in developing outreach programs and interventions to help underserved populations (Andersen, 1995). For instance in a study on vocational rehabilitation usage by Latino men living with HIV/AIDS, ethnicity (a predisposing characteristic), knowledge of resources (enabling resource), receipt of public benefit (enabling resource), confidence to maintain a job (need), and general health perception (need) significantly predicted vocational rehabilitation service use (Datti & Conyers, 2010). Results indicated that program organizers of the vocational rehabilitation



services needed to reexamine how knowledge of the resource and why mostly individuals who identified ethnicity as Puerto Rican were more likely to use the service than other Latino men with HIV/AIDS (Datti & Conyers, 2010). Another study analyzing Veterans Health Administration (VHA) usage by LGB veterans in Washington state also observed a significant predictive predisposing characteristic variable (female), a significant predictive enabling resource variable (positive service connection), and two significant need variables (greater clinical need, non-military GLB related interpersonal trauma) in individuals who utilized the VHA for health care (Simpson et al., 2013). Both studies demonstrate how Andersen's BHM can help identify inequalities in predisposing characteristics and enabling variables. Once identified, existing strategies to reach sexual minorities can be augmented or new strategies can be designed and implemented to help mitigate the inequalities and increase usage of mental and physical health care services by sexual minority populations (Andersen, 1995).

To evaluate VHA usage by sexual minority veterans, Simpson and colleagues (2013) proposed adding a specific variable, *GLB-related Military Experiences*, when conducting their study in the state of Washington. This addition to the model considered three unique experiences that GLB veterans faced while in the military that other veterans did not face. *GLB-related Military Experiences* included assessing the degree of anxiety regarding the need to conceal one's sexual orientation while in the military, trauma experienced in the military related to their sexual orientation, and presence of stressful event designed by military to discover or punish the individual due to sexual orientation. Based on a GLB veteran's unique *GLB-related Military Experiences* was theorized to impact their subsequent usage of the VHA.

Much like how sexual minority individuals in the military faced increased scrutiny for their sexual orientations from their peers in the military, rural individuals face similar scrutiny due to their sexual orientation status from their peers in their communities (Fisher et al., 2013; Preston et al., 2004; Preston, D'Augelli, Kassab, & Starks, 2007). Nonheterosexual veterans face unique barriers to VHA due to experiences specific to being nonheterosexual and a veteran (Simpson et al., 2013), and rural nonheterosexual individuals have similar unique barriers related to being nonheterosexual and living in a rural environment (Leedy & Connolly, 2008; H. Meyer, 2011; Pickett, 2010). In the current proposed study, much like in Simpson and colleagues' (2013) usage of the BHM, an addition to the BHM will be used to determine if unique factors faced by rural gay, bisexual and other MSM also impact the usage of health care. Using Simpson and colleagues' (2013) addition as a guide (see Figure 2), the BHM will be adapted to account for the unique experiences of rural gay, bisexual, and other MSM (see Figure 3). This adaptation to the model will account for additional stressors and obstacles not faced by rural heterosexual men who do not have sex with men. This addition to the BHM will help highlight the negative impact the additional stigmas can have on rural gay, bisexual and other MSM's health.

### **Assessing Sexual Orientation**

Since the late 1880's when research about sexual orientation began to appear in print, researchers have debated about how to effectively assess sexual orientation. Asking a person to select from a list of categorical labels (e.g., heterosexual, gay/lesbian, bisexual) is one of the most common methods utilized by researchers (e.g., Blanchard & Bogaert, 1996; Blanchard, Zucker, Bradley, & Hume, 1995); however, self-identification

of sexual orientation fails to consider multiple dimensions of sexual orientation (Kinsey, 1941; Kinsey et al., 1948; Klein et al., 1985; Vrangalova & Savin-Williams, 2010).

**Kinsey Scale.** One of the first widely accepted measures developed to address the challenge of defining sexual orientation was the Kinsey Scale (Kinsey, 1941; Kinsey et al., 1948). The Kinsey Scale strived to not classify sexual orientation into discrete categorical labels and instead attempted to measure sexual orientation on a continuum of desire for sexual attraction, behavior, and fantasy. The Kinsey scale was a continuous scale numbered from 0 (*heterosexual only*) to 6 (*homosexual only*). Based on an interview designed to assess a person's sexual behavior and fantasy, the researcher assigned the person a number on the continuum (Kinsey, 1941; Kinsey et al., 1948).

The Kinsey Scale advanced the assessment of sexual orientation by being the first widely accepted scale to attempt to consider multiple dimensions of a person's sexual orientation (Kinsey, 1941; Kinsey et al., 1948). Kinsey's scale allowed for a more sensitive and dynamic measurement process encompassing the person's phenomenological experience and did not force a person into a specific label and allowed consideration of sexual behavior and fantasy as important constructs relating to a person's sexual orientation (Kinsey, 1941; Kinsey et al., 1948).

**Klein Sexual Orientation Grid.** The Klein Sexual Orientation Grid (KSOG) built upon the concepts of Kinsey's work by assessing additional dimensions of sexual orientation. Klein also considered a person's life span when measuring sexual orientation (Klein et al., 1985). The KSOG measures sexual orientation across seven dimensions (sexual attraction, sexual behavior, sexual fantasies, emotional preference, social

preference, self-identification, and lifestyle) in the participant's past, present, and what the participant considers ideal.

The KSOG added to the understanding of sexual orientation by demonstrating over a person's life time, some people's sexual orientation changes and therefore have multiple sexual orientations in different dimensions and at different points in life (Klein et al., 1985). However, some of the main criticisms of the KSOG is not all the factors assessed impacted the participant's sexual orientation.

**Contemporary Approaches.** Horowitz and Newcomb (2001) challenge the notion that one model exists that explains all non-heterosexual orientations. Stage models fail to capture all the complexities that comprise human behavior making identification of concrete stages of sexual orientation development difficult. Developmental models tend to be overly simplistic, linear in explanation of etiology, and assume the outcome of the model is homosexual realization (Horowitz & Newcomb, 2001). Emerging research challenging paradigms of current assumptions of sexual orientation research argue attraction, behavior, and identification to same sex sexual partners and opposite sex sexual partners are not two opposite end points on the same continuum. Instead, two continuums (same sex & opposite sex) exist with the endpoints of nonexistent to strongly present (Vrangalova & Savin-Williams, 2010, 2012). This paradigm shift in assessment of sexual orientation enables researchers to capture the breadth and complexity of participants' experienced sexual orientation.

**Experienced Sexual Orientation.** Participants who self-identify as one sexual orientation but exhibit behaviors and attractions of another sexual orientation have one of

two explanations. The first could be a result of the inaccurate assumptions associated with distinct labels of sexual orientation (e.g., Diamond, 1998; Diamond, 2000; Kinsey et al., 1948; Worthington & Reynolds, 2009). However, another issue could be the individual's expressed sexual orientation is different from the person's experienced sexual orientation (Worthington & Reynolds, 2009). Operationally defined, experienced sexual orientation is the sexual orientation of a participant that best reflects the breadth and complexity of his/her unique experience with sexual orientation.

A person's expressed sexual orientation is the public expression of a person's sexual orientation. Typically, it is the particular label (homosexual, heterosexual, bisexual) a person endorses when asked to identify his/her sexual orientation. This is different from sexual attraction, which refers to specific stimuli causing a person to have a physiological sexual arousal response. Sometimes a person will express a sexual orientation not in congruence with his/her experienced sexual orientation (Worthington & Reynolds, 2009).

Many obstacles exist on why a person would choose to identify his/her actual sexual orientation. Society has traditionally looked down upon those identifying sexual orientation as anything other than heterosexual (Cass, 1979; Schrimshaw, Siegel, Downing, & Parsons, 2013). A person disclosing his/her experienced sexual orientation has to face a myriad of ramifications with the release of a person's experienced sexual orientation if it is not heterosexual (Worthington & Reynolds, 2009). So, a person can choose an expressed sexual orientation, or what he/she publicly acknowledges. However, a person has no choice in his/her experienced sexual orientation, which is often

comprised of a person's self-identification, sexual attraction, and sexual behaviors (Horowitz & Newcomb, 2001; Vrangalova & Savin-Williams, 2010, 2012).

## **Rurality**

Currently, several techniques exist on assessing the rurality of where a participant resides. In looking at various LGBT related concerns in a rural context, researchers have chosen to define rurality based strictly on population (Kennedy, 2010; Oswald & Culton, 2003; Oswald & Masciadrelli, 2008), relying on US Census Bureau classifications of rural or urban areas (Fisher et al., 2013; Preston et al., 2004; Preston et al., 2007; Rowan et al., 2013), and more recently using Waldorf's (2007) Index of Relative Rurality (IRR; Hubach, Dodge, Li, et al., 2015; Hubach, Dodge, Schick, et al., 2015). There is an inherent problem in not using a continuous scale like the IRR to classify an areas rurality. Using discrete labels of rural, urban, metropolitan, etc. are delineated based on arbitrary definitions of what is to be classified as rural and urban (Waldorf, 2007). Often round numbers based on total population or population on used, and the same criteria that is used to classify rurality in a populous area (e.g., New York) are the same as used in a less populous area (e.g., Montana; Waldorf & Kim, 2015). The main concern is the dichotomous classification that could be a difference of only 1 person. Is there really a difference between a town classified as suburban with 10,000 people when compared to a town classified as rural with 9,999 people? The IRR addresses this concern by assigning an index value from 0 (most urban) to 1 (most rural) based on four dimensions used in rurality measurements, population size, population density, remoteness, and built-up area (Waldorf, 2007; Waldorf & Kim, 2015). Using the IRR allows for a comparison of

rurality based on subtle differences between areas instead of artificial categories based on arbitrary assumptions.

## **APPENDIX B**

### **INFORMED CONSENT DOCUMENT**

**IRB STUDY # ED-15-136**

### **OKLAHOMA STATE UNIVERSITY STUDY INFORMATION SHEET & INFORMED CONSENT**

#### **HEALTH CARE UTILIZATION STUDY**

You are invited to participate in a research study looking at the utilization of mental and physical health care by gay, bisexual, and other men who have sex with men. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

The study is being conducted by Joseph M. Currin, MA, and colleagues at the Sexual Health Research Lab at Oklahoma State University.

#### **STUDY PURPOSE**

The purpose of this study is to gain insight into why gay, bisexual, and other men who have sex with men do (or do not) utilize mental and physical health care systems.

#### **PROCEDURES FOR THE STUDY:**

If you agree to be in the study, you will do the following things:

You will be completing an online questionnaire that is estimated to take between 30-45 minutes of your time. Some of the questions in this study will ask about substance use and sexual risk taking behaviors. As discussed in the confidentiality section below, the study is an anonymous questionnaire, no identifying information will be collected and the records of the study will be kept private.



## **RISKS OF PARTICIPATION**

There are no risks that are anticipated from your participation in the study. Some of the questions may make you feel uncomfortable, but you are free to decline to answer any questions you do not wish to answer or stop participation in the study.

## **BENEFITS OF PARTICIPATION**

The anticipated benefit of participation is to provide insight into what barriers may or may not exist for individuals in using mental and physical health care facilities in their areas and help improve access to these facilities for those that do not currently use them.

## **CONFIDENTIALITY**

This study includes an anonymous questionnaire; as such the records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you. Research records will be stored on a password-protected computer in a locked office and only researchers and individuals responsible for research oversight will have access to the records. Data will be destroyed three years after the study has been completed.

Note that Qualtrics has specific privacy policies of their own. If you have concerns you should consult this service directly. Qualtrics' privacy statement is provided at: <http://qualtrics.com/privacy-statement>.

## **PAYMENT**

For your participation in the study, you can choose to receive one gift certificate in the amount of \$\$\$\$. At the end of this survey, a link will be provided that will route you to a separate survey where you can then enter your email information so we can give you your gift certificate. The information in the two surveys will not be able to be matched and your responses will still remain anonymous if you choose to receive a gift certificate.

## **CONTACTS FOR QUESTIONS OR PROBLEMS**

For questions about the study, contact the researcher, Joseph Currin at [joe.currin@okstate.edu](mailto:joe.currin@okstate.edu), or his advisor Randolph D. Hubach, PhD, MPH at [randolph.hubach@okstate.edu](mailto:randolph.hubach@okstate.edu).

For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, contact the IRB Office at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or [irb@okstate.edu](mailto:irb@okstate.edu)

## **VOLUNTARY NATURE OF STUDY**

Taking part in this study is voluntary. You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your current or future relations with Oklahoma State University.

## **CONSENT DOCUMENTATION:**

I have been fully informed about the procedures listed here. I am aware of what I will be asked to do and of the benefits of my participation. I also understand the following statements:

I affirm that I am 18 years of age or older.

- ☐ YES
- ☐ NO

I have read and fully understand this consent form. I hereby give permission for my participation in this study.

- ☐ YES
- ☐ NO

**APPENDIX C**  
**STUDY MEASURES**

**Demographic Questionnaire**

1. How old are you?

###

2. What is your date of birth?

mm/dd/yyyy

3. What is your primary race or ethnic identification? (Select one)

0 = Black/African American

1 = Hispanic/Latino

2 = White, not of Hispanic origin

3 = Asian/Pacific Islander

4 = American Indian/Alaskan

5 = Another Race/Ethnicity

6 = Biracial/Multiracial

98 = Refuse to answer

4. What is the highest level of education you have completed? (Select one)

0 = no formal education

1 = Did not graduate from High School or earn a GED

2 = High School Graduate or GED

3 = Some College/AA degree/Technical School Training

4 = College Graduate (BA/BS)

5 = Some graduate school

6 = Master's Degree

7 = Doctorate/Medical/Law Degree

98 = Refuse to answer

5. Are you: (Select one)

1 = Male

2 = Female

3 = Transgender (Male to Female)

4 = Transgender (Female to Male)

6. Do you have a penis?

Yes/no

7. During the last 12 months, what was your total personal income from all sources?  
(Select one)

1 = \$10,000 or less

2 = \$10,001 to \$20,000

3 = \$20,001 to \$40,000

4 = \$40,001 to \$60,000

5 = \$60,001 to \$80,000

6 = Over \$80,000

98 = Refuse to Answer

8. Describe your relationship status (Select one).

1 = Single/never married/Never in a long term committed relationship

2 = In a committed relationship (not married and not living together)

3 = In a domestic relationship (living with committed partner)

4 = Married to a Man

5 = Married to a Woman

6 = Separated

7 = Divorced

8 = Widowed

99 = Other

98 = Refuse to answer

8a. (If answer to 8 = 2, 3, 4, 5) How long have you been in the relationship?

1 = less than 6 months

2 = more than six months to 1 year

3 = more than 1 year to 3 years

4 = more than 3 years to 10 years

5 = more than 10 years

9. Do you have sex with men?

Yes/no

9a. (If answer to 9 = yes) Do you sexually identify as a

1 = Top (penetrative partner)

2 = Versatile (penetrative and receptive partner)  
3 = Bottom (receptive partner)  
97 = Not Sure  
98 = Refuse to Answer

10. Do you have sex with women?  
Yes/No

11. What is your zip code?  
#####

12. What COUNTY do you live in? (ex: STILLWATER is in PAYNE county)  
(provide list of all counties in Oklahoma)  
97 = Not sure  
98 = Refuse to answer

13. What is your current HIV status?  
0 = Negative  
1 = Positive  
97 = Don't Know  
98 = Refuse to Answer

13. Have you been told by a health care provider in the past TWO YEARS you had any of the following?  
1 = Syphilis  
2 = Gonorrhea  
3 = HPV/Genital Warts  
4 = Genital Herpes  
5 = Trichomoniasis  
6 = Hepatitis C  
97 = Don't Know  
98 = Refuse to Answer

14. Have you been told by a mental health care professional in the past TWO YEARS you had any of the following?  
1 = Major Depressive Disorder/Depression  
2 = Generalized Anxiety Disorder (GAD)  
3 = Post Traumatic Stress Disorder (PTSD)  
4 = Adjustment Disorder  
5 = ADHD

6 = Bipolar Disorder (I or II)  
7 = A Personality Disorder (any)  
8 = Any Eating Disorder  
97 = Other Disorder  
98 = Refuse to Answer

15. Do you currently have insurance (non-VA)?

- a. yes, through my place of employment
- b. yes, through the Affordable Care Act (Obamacare)
- c. yes, purchased separately from my employer and not from the affordable care act
- d. no

16. Do you have coverage from the Veteran's Health Administration, commonly called the VA or VHA?

- a. yes
- b. no

### **Dependent Variable (Health Care Usage)**

1. In the past 12 months, have you used any of the following services? (check all that apply)

- A. general outpatient medical care
- B. specialty outpatient medical care
- C. emergency room
- D. inpatient medical care
- E. vision care
- F. dental care
- G. individual counseling
- H. group counseling
- I. individual substance use treatment
- J. group substance use treatment
- K. inpatient psychiatric care
- L. vocational rehabilitation
- M. social work
- N. clergy/chaplain services
- O. other services

For each service that is not checked, the participant will be asked if the reason the service was not accessed was due his sexual orientation or sexual behaviors.

For each service that is checked, the participant will be asked the following question:

Have you explicitly informed the provider of your sexual orientation and/or your sexual behaviors?

2. In your life, have you used any of the following services? (check all that apply)

- A. general outpatient medical care
- B. specialty outpatient medical care
- C. emergency room
- D. inpatient medical care
- E. vision care
- F. dental care
- G. individual counseling
- H. group counseling
- I. individual substance use treatment
- J. group substance use treatment
- K. inpatient psychiatric care
- L. vocational rehabilitation

- M. social work
- N. clergy/chaplain services
- O. other services

For each service that is not checked, the participant will be asked if the reason the service was not accessed was due his sexual orientation or sexual behaviors.

For each service that is checked, the participant will be asked the following question:

Have you explicitly informed the provider of your sexual orientation and/or your sexual behaviors?

### **The Alcohol Use Disorders Identification Test (AUDIT)**

1. How often do you have a drink containing alcohol?
  - a. Never
  - b. Monthly or less
  - c. Two to four times a month
  - d. Two to three times a week
  - e. Four or more times a week
  
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
  - a. 1 or 2
  - b. 3 or 4
  - c. 5 or 6
  - d. 7 to 9
  - e. 10 or more
  
3. How often do you have six or more drinks on one occasion?
  - a. Never
  - b. Less than Monthly
  - c. Monthly
  - d. Weekly
  - e. Daily or Almost Daily
  
4. How often during the last year have you found that you were not able to stop drinking once you had started?
  - a. Never
  - b. Less than Monthly
  - c. Monthly
  - d. Weekly



e. Daily or Almost Daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

a. Never

b. Less than Monthly

c. Monthly

d. Weekly

e. Daily or Almost Daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

a. Never

b. Less than Monthly

c. Monthly

d. Weekly

e. Daily or Almost Daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

a. Never

b. Less than Monthly

c. Monthly

d. Weekly

e. Daily or Almost Daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

a. Never

b. Less than Monthly

c. Monthly

d. Weekly

e. Daily or Almost Daily

9. Have you or someone else been injured as a result of your drinking?

a. No

b. Yes, but not in the last year

c. Yes, during the last year

10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?

- a. No
- b. Yes, but not in the last year
- c. Yes, during the last year

### **The Drug Abuse Screening Test (DAST-10)**

The following questions refer to the past 12 months:

1. Have you used drugs other than those required for medical reasons?	Yes	No
2. Do you abuse more than one drug at a time?	Yes	No
3. Are you always able to stop using drugs when you want to? (If never used drugs, answer YES)	Yes	No
4. Have you had “blackouts” or “flashbacks” as a result of drug use?	Yes	No
5. Do you ever feel bad or guilty about your drug use? (If never used drugs, answer NO)	Yes	No
6. Does your spouse (or parents) ever complain about your involvement with drugs?	Yes	No
7. Have you neglected your family because of your drugs?	Yes	No
8. Have you engaged in illegal activities in order to obtain drugs?	Yes	No
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	Yes	No
10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?	Yes	No

### **Sexual Orientations & Behaviors (MDA)**

1. Select from the following list the term that best describes your sexual orientation:

- a. Heterosexual
- b. Mostly Heterosexual
- c. Bisexual
- d. Mostly Gay
- e. Gay

2. How sexually attracted are you to men?

- 1. Not at all
- 2
- 3
- 4
- 5
- 6
- 7 Very Much

3. How sexually attracted are you to women?

- 1. Not at all
- 2
- 3
- 4
- 5
- 6
- 7 Very Much

4. What is the total number of male sexual partners you have had? (A sexual partner is defined as someone with whom you have had any penile-vaginal penetration, oral sex, anal sex, and/or mutual masturbation)

5. What is the total number of female sexual partners you have had? (A sexual partner is defined as someone with whom you have had any penile-vaginal penetration, oral sex, anal sex, and/or mutual masturbation)

### Post-Traumatic Stress Disorder Checklist – 5 (PCL-5)

<i>In the past month, how much were you bothered by:</i>	<i>Not at all</i>	<i>A little bit</i>	<i>Moderately</i>	<i>Quite a bit</i>	<i>Extremely</i>
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again ( <i>as if you were actually back there reliving it</i> )?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience ( <i>for example, heart pounding, trouble breathing, sweating</i> )?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience ( <i>for example, people, places, conversations, activities, objects, or situations</i> )?	0	1	2	3	4
	0	1	2	3	4

8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world ( <i>for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous</i> )?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings ( <i>for example, being unable to feel happiness or have loving feelings for people close to you</i> )?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being “superalert” or watchful or on	0	1	2	3	4

guard?					
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

### Nebraska Outness Scale (NOS)

NOS-Disclosure: What percent of the people in this group do you think are aware of your sexual orientation (meaning they are aware of whether you consider yourself straight, gay, etc.)?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Members of your immediate family (e.g., parents, siblings)											
Members of your extended family											
People you socialize with (e.g., friends, acquaintances)											
People at your work/school (e.g., coworkers, supervisors, instructors, students)											
Strangers (e.g., someone you have a casual conversation with in line at the store)											
Mental Health Professionals/Counselors/Therapists											
Medical Providers/Doctors											

NOS – Concealment: How often do you avoid talking about topics related to or otherwise indicating your sexual orientation (e.g., not talking about your significant other, changing your mannerisms) when interacting with members of these groups?

	Never					Half the Time					Always
Members of your immediate family (e.g., parents, siblings)											
Members of your extended family											
People you socialize with (e.g., friends, acquaintances)											
People at your work/school											



(e.g., coworkers, supervisors, instructors, students)											
Strangers (e.g., someone you have a casual conversation with in line at the store)											
Mental Health Professionals/Counselors/Therapists											
Medical Providers/Doctors											

### Center for Epidemiologic Studies Depression Scale – Revised (CESD-R)

Below is a list of the ways you might have felt or behaved. Please circle the boxes to tell me how often you have felt this way in the past week or so.

	Not at all or less than 1 day	1-2 days	3-4 days	5-7 days	Nearly every day for 2 weeks
My appetite was poor.	0	1	2	3	4
I could not shake off the blues.	0	1	2	3	4
I had trouble keeping my mind on what I was doing.	0	1	2	3	4
I felt depressed.	0	1	2	3	4
My sleep was restless.	0	1	2	3	4
I felt sad.	0	1	2	3	4
I could not get going.	0	1	2	3	4
Nothing made me happy.	0	1	2	3	4
I felt like a bad person.	0	1	2	3	4
I lost interest in my usual activities.	0	1	2	3	4
I slept much more than usual.	0	1	2	3	4
I felt like I was moving too slowly.	0	1	2	3	4
I felt fidgety.	0	1	2	3	4
I wished I were dead.	0	1	2	3	4
I wanted to hurt myself.	0	1	2	3	4
I was tired all the time.	0	1	2	3	4
I did not like myself.	0	1	2	3	4
I lost a lot of weight without trying to.	0	1	2	3	4
I had a lot of trouble getting to sleep.	0	1	2	3	4
I could not focus on the important things.	0	1	2	3	4

### **Relational Health Indices – Community Subscale (RHI-C)**

The following questions pertain to your LGBT/Ally community. Please indicate the number that best applies to your relationship with or involvement in this community.

1. I feel a sense of belonging to this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

2. I feel better about myself after my interactions with this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

3. If members of this community know something is bothering me, they ask me about it.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

4. Members of this community are not free to just be themselves.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

5. I feel understood by members of this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

6. I feel mobilized to personal action after meetings within this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

7. There are parts of myself I feel I must hide from this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

8. It seems as if people in this community really like me as a person.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

9. There is a lot of backbiting and gossiping in this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

10. Members of this community are very competitive with each other.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

11. I have a greater sense of self-worth through my connection with this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

12. My connections with this community are so inspiring that they motivate me to pursue relationships with other people outside this community.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

13. This community has shaped my identity in many ways.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often
- 5 Always

14. This community provides me with emotional support.

- 1 Never
- 2 Seldom
- 3 Sometimes
- 4 Often

5 Always

### **The Gay-Related Rejection Sensitivity Scale (GRRSS)**

1. You bring a male partner to a family reunion. Two of your old-fashioned aunts don't come talk to you even though they see you.

How concerned or anxious would you be that they don't talk to you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they didn't talk to you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

2. A 3-year old child of a distant relative is crawling on your lap. His mom comes to take him away.

How concerned or anxious would you be that she took the child from you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that she took the child from you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

3. You've been dating someone for a few years now, and you receive a wedding invitation to a straight friend's wedding. The invite was addressed only to you, not you and a guest.

How concerned or anxious would you be that they only invited you and not a guest because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they only invited you and not a guest because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

4. You go to a job interview and the interviewer asks if you are married. You say that you and your partner have been together for 5 years. You later find out that you don't get the job.

How concerned or anxious would you be that you didn't get the job because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they didn't hire you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

5. You are going to have surgery, and the doctor tells you that he would like to give you an HIV test.

How concerned or anxious would you be that the doctor asked for an HIV test because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that the doctor asked for an HIV test because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

6. You go to donate blood and the person who is supposed to draw your blood turns to her co-worker and says, “Why don’t you take this one?”

How concerned or anxious would you be that she asked her co-worker to do the blood draw because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it she asked her co-worker to do the blood draw because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

7. You go get an STD checkup, and the man taking your sexual history is rude towards you.

How concerned or anxious would you be that he was rude to you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that he was rude to you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

8. You bring a guy you are dating to a fancy restaurant of straight patrons, and you are seated away from everyone else in a back corner of the restaurant.

How concerned or anxious would you be that you were seated away from everyone else because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that that you were seated away from everyone else because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

9. Only you and a group of macho men are on a subway train late at night. They look in your direction and laugh.

How concerned or anxious would you be that they laughed at you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they they laughed at you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely



10. You and your partner are on a road trip and decide to check into a hotel in a rural town. The sign out front says there are vacancies. The two of you go inside, and the woman at the front desk says that there are no rooms left.

How concerned or anxious would you be that the desk clerk said there were no rooms left because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that the desk clerk said there were no rooms left because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

11. You go to a party and you and your partner are the only gay people there. No one seems interested in talking to you.

How concerned or anxious would you be that they don't talk to you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they didn't talk to you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

12. You are in the locker room in a straight gym. One guy nearby moves to another area to change clothes.

How concerned or anxious would you be that he moved to another area because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that he moved to another area because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

13. Some straight colleagues are talking about baseball. You force yourself to join the conversation, and they dismiss your input.

How concerned or anxious would you be that they dismissed your input because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they dismissed your input because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

14. Your colleagues are celebrating a co-worker's birthday at a restaurant. You are not invited.

How concerned or anxious would you be that they didn't invite you because of your sexual orientation?

1 – unconcerned 2 3 4 5 6 7 – very concerned

How likely is it that they didn't invite you because of your sexual orientation?

1 – very unlikely 2 3 4 5 6 7 – very likely

### **National Survey of Sexual Health Behaviors (NSSHB)**

This measure is a proprietary measure and therefore not provided in this appendix.

## **APPENDIX D**

### **DEBRIEFING STATEMENT**

#### **Debriefing Statement**

Thank you for participating in this research. In the study, the researcher studied different barriers to accessing health care faced by gay, bisexual, and other men who have sex with men residing in rural areas. If you would like a copy of the results of the study, please contact the researcher and arrangements will be made.

Researcher: Joseph M. Currin, M.A.  
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If you have questions about your rights as a research volunteer, you may contact the Oklahoma State University Institutional Review Board (IRB) Chair.

IRB Chair: Hugh C. Crethar, Ph.D.  
Oklahoma State University  
434 Willard Hall  
Stillwater, OK 74078,  
Email: [irb@okstate.edu](mailto:irb@okstate.edu)

Thank you for participating.

## APPENDIX E

### IRB APPROVAL

#### Oklahoma State University Institutional Review Board

Date: Thursday, October 15, 2015  
IRB Application No: ED15136  
Proposal Title: Unique barriers in accessing healthcare for rural gay, bisexual, and other men who have sex with men.  
Reviewed and Processed as: Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 10/14/2016

Principal Investigator(s):

Joseph Cumin	Randolph Hubach
434 Willard Hall	433 Willard
Stillwater, OK 74078	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

— The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,  
  
Hugh Crethar, Chair  
Institutional Review Board

## VITA

Joseph M. Currin

Candidate for the Degree of

Doctor of Philosophy

Dissertation: UNIQUE BARRIERS IN ACCESSING HEALTHCARE FOR RURAL  
GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN

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